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SECOND
YEAR
OF THE
LOOK ABOUT
CLUB :



BY

MARY E. BAMFORD:

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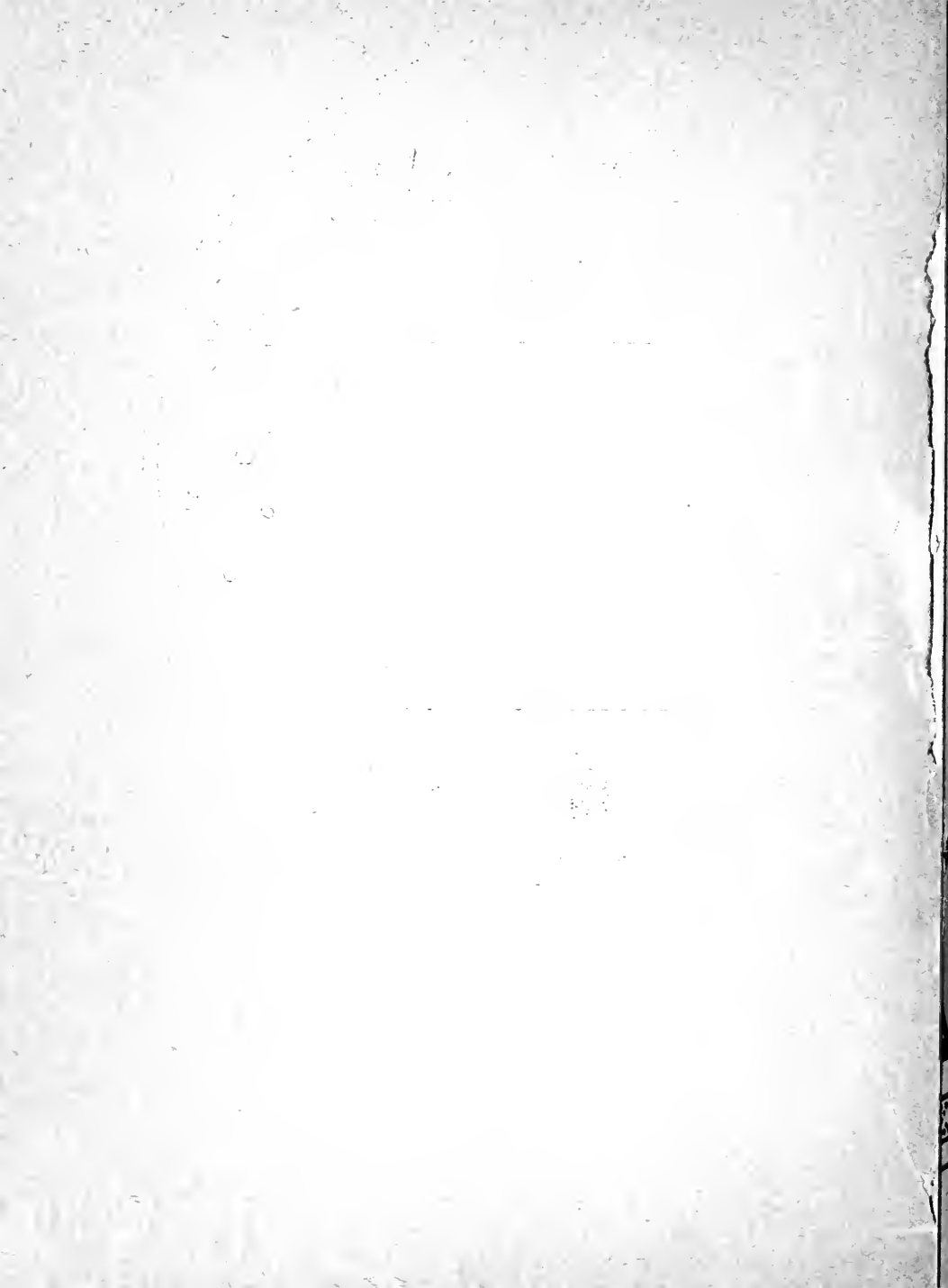


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LOOKABOUT
CLUB :



BY

MARY E. BAMFORD:



NAS
Baltimore

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THE SECOND YEAR
OF THE LOOK-ABOUT CLUB



KITTY IS TROUBLED.

THE SECOND YEAR
OF THE
LOOK-ABOUT CLUB

BY

MARY E. BAMFORD

Author of "MY LAND AND WATER FRIENDS," and "THE LOOK-ABOUT CLUB."

ILLUSTRATED BY HIRAM P. BARNES

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THE SECOND YEAR OF
THE LOOK-ABOUT CLUB

CHAPTER I.

KITTIE'S TRIAL.

“WHAT is the matter with Kittie?” asked Al, one day. “Seems to me she cries every little while. And she used to stand so high at school; but she doesn't any more. She isn't getting sick, is she?”

“I know what's the matter at school,” answered Blanche, as she rubbed her slate clean with a sponge. “She can't see the things on the blackboard, the way the other scholars can.”

“What, the figures?” asked Al; “why in the world can't she, I'd like to know? Her desk is away up front. She doesn't have to look nearly as far as I do to see the figures.”

“I know it,” said Blanche. “That's the reason why

Miss Hardy gave her that seat, because Kittie couldn't see from where she sat before. But Kittie says she can't see now."

"That's funny," said Al.

Blanche looked grave.

"I heard papa talking about it," said she, "and he is going to take Kittie to the city to see about her eyes."

The truth was, that, when Kittie was very young she learned to read, and became so fond of this occupation that she spent most of her time with her books.

Mrs. Perry would say, "Now, don't hold your book too near your eyes, Kittie," but Kittie was generally too much absorbed in the stories to heed the caution.

So things had gone on, until, now that Kittie was twelve years old, objects had gradually become dimmer and dimmer, until she could not see her father down the road when he was coming home, nor the minister's house from the window where she used to see it, and when she looked at the Big Dipper at night she could not find as many stars in it as Al and Blanche could, and so Mrs. Perry had begun to fear that Kittie would be near-sighted.



At school matters were trying indeed. The teacher was very kind, and when examination days came around she would write off all the examples on a piece of paper and give it to Kittie, because she could not, like the other scholars, read what was written on the board. Still Kittie was very unhappy, and cried a great deal about her eyes.

One day Kittie came home crying. Her dearest friend, Nellie Hunt, said she would not play with her any more, because, the day before, when Kittie had been at the post-office, she had walked straight past Nellie and had not smiled nor bowed nor even looked at her.

It took all Mrs. Perry's and Aunt Nan's ingenuity to comfort Kittie that night, but Mrs. Perry told her she must beg Nellie to excuse her on account of not having seen who it was.

Things went on from bad to worse, however, and one day Mr. Perry took Kittie and went to the city. Blanche worried all day long.

"You don't s'pose they'll do anything to Kittie's eyes, do you?" she asked her mother.

“Nothing very dreadful, I think,” answered her mother, reassuringly.

But the day seemed long to Blanche, and when evening came she was waiting at the front gate, and the moment the two figures appeared in the distance, away she ran to meet them.

“Did they hurt you?” cried she, as she ran up. “Why, Kittie Perry, how funny you do look!” For there, adorning Kittie’s smiling face, perched upon her little nose, were a pair of gold-rimmed spectacles.

“Do they look funny?” laughed Kittie. “I didn’t know but maybe they did; but, Blanche, I can see lots — just as well as I ever could. Why, when we went on the boat to-day I could see the little waves ever so far off.”

“Are you going to wear them all the time? How do you keep them on?” asked Blanche; and Kittie had to show the little gold bows with knobs on the end, that went behind her ears.

Kittie was so much pleased that she could hardly wipe her dishes that night, she was in such a hurry to go out-doors and look at everything.

All the world looked different to her. When it grew dark she was delighted to see the stars shining so brightly; and she discovered that she had been mistaken, and that Al and Blanche were right about the number of stars in the Big Dipper.

When Kittie went back to school again the next day, her schoolmates stared at her spectacles a little, but they did not say much, and all seemed glad that she could see again. That is, all but Tom Finnigan, a big boy who always seemed to delight in making people miserable.

“Halloo, Grandmother!” shouted he when the first recess came.

“Hush,” said Carrie Benton, “you mustn’t plague Kittie. You know she has felt badly enough about her eyes.”

But, all the same, Tom persisted in trying to annoy the spectacled scholar; and he succeeded so well that shortly Kittie became almost as miserable as she had been before she had her glasses.

“Thanksgiving’s coming,” called out Blanche one day, as Kittie came in from school.

“I don't care,” said Kittie crossly. “I don't see what I've got to be thankful for, if I must have these eyes always.”

Mrs. Perry, in the next room, heard what Kittie said, but did not think it best to say anything just then. When Mr Perry came home that night, however, she told him that something must be done to make Kittie feel more contented.

“Let's take her up to the Blind Asylum and show her the scholars there,” suggested Mr. Perry. “Perhaps when she sees so many worse off than herself, she will think that her eyes are worth something, after all.”

So, the Saturday before Thanksgiving, Mr. Perry took his wife and Kittie and drove two or three miles to the asylum.

A servant answered the door-bell and showed them into the parlor. The principal came down in a few minutes, and Mr. Perry asked if they could look over the buildings.

“Certainly,” said the principal, and called a blind girl, about sixteen years old, to lead the visitors around and show them the rooms.

Out in the hall were two or three little blind boys standing by the door. Kittie asked one of them how he became blind, and the little fellow tried to tell her, but, overcome by his young visitor's sympathy, he broke down crying, and Kittie cried with him. In fact, long before the tour of the buildings had been made, Kittie had seen so many of the poor children and heard so many pitiful stories that she began to think she was one of the most fortunate of mortals to have any sight at all.

In a room in which were a large number of blind children, one of the boys was playing beautifully on a piano. The principal told Mr. Perry that the scholars were fond of music and learned very readily, some being quite good singers.

The blind girl who showed the party over the buildings did not have to move carefully, as Kittie would have supposed, but walked quickly through the rooms and halls like one who could see her way.

They visited the large bedrooms with their rows of little white beds ; then the girl took them to the library, where she lifted a large Bible down from its shelf and

opened the book to show Kittie the raised letters with which the blind read. Mr. Perry asked the girl to read some verses to him, and she put her fingers on the letters and read as easily as a person could with eyes.

It was time to go, so Kittie said good-by to her blind friends and went away, promising to come and see them again some time.

Mr. and Mrs. Perry did not say anything to Kittie, but thought they would wait and see what impression her visit had made upon her.

Thanksgiving Day came, and the family all went to church to hear the sermon. That night Blanche said to Kittie, "The minister said this morning that we must all be thankful, but I don't suppose he meant you, 'cause you have to wear spectacles."

"Yes, he did mean me, too," said Kittie, as she laid a wish-bone up on a shelf to dry, "and I've got ever so much to be thankful for, Blanche Perry. I guess you would think so if you'd seen all those blind children. You won't catch me complaining any more about my eyes, if I have to wear specs as long as I live."

And, indeed, no more murmurings on that account

were heard in the Perry household, for if ever for the moment Kittie felt like complaining, a little blind face rose up before her and she seemed to hear again that childish voice saying, "Oh! I wish I could see. I wish I could see the least little bit!"

The club, at Aunt Nan's suggestion, held a "Blind Night," on which blind animals were to be talked about.

"I have been acquainted with only one blind thing in my life," said Grandmamma, as the meeting opened, "and that was a poor little canary that I had when a child. His name was Twitters. I think his blindness was caused by old age. But, if Twitters was blind, he was not stupid. Whenever anybody would put a bit of chickweed or a piece of apple into any part of his cage, Twitters would fly straight to the very spot to find out what was going on. He did not need any eyes to tell him which way to go, but went to the very spot at once. Sometimes Twitters would sit and sing, and it seemed sad to see the little blind bird doing his best to be cheerful."

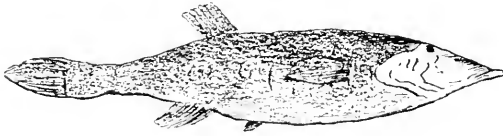
"What became of him?" asked Kittie.

“One morning, during a very cold winter, I came downstairs and went to Twitters’ cage to bid him good-morning. But, alas! for poor little Twitters. The cold night had been too much for him, and he lay stiff and dead in the bottom of the cage.”

“What did you do with him?” asked Blanche.

“I buried him under an old tree,” said Grandmamma.

Blanche drew her stool a little nearer and laid her hand sympathetically on Grandmamma’s lap.



·BLIND FISH·

“And did you feel badly?” asked she. “As badly as Kittie and I did over the rabbits?”

“Yes; I think I did,” said Grandmamma, smiling at the little questioner.

“Now, it’s papa’s turn,” said Al, and Mr. Perry called them all to come to the light and see a picture in a book he held. It was a picture of a blind fish.

“Where do such fishes as that live, papa?” asked Blanche.

“In Mammoth Cave,” answered her father. “They

are supposed to be found in all underground rivers flowing through the limestone region of the United States, and they have often been found in wells."

"Are they blind all their lives?" asked Kittie.

"People suppose so," said her father. "As far as people know, the baby fishes are blind as well as the bigger ones. Once in a while one is found that can see. But do you remember, Kittie, how quick to hear and touch anything some of those blind children were at the asylum?"

"Yes, indeed," said Kittie. "I couldn't have walked so fast with my eyes shut as that blind girl did."

"Well," said Mr. Perry, "that is the way with these blind fish. The sense of hearing and touch is so acute that they are very active. Mud-fishes live in the waters of Mammoth Cave, too, and these blind fish will rush after them and catch and eat them, although the mud-fishes have eyes."

"How do the blind fish catch them, then?" asked Al.

"Why, you see," said his father, "the blind fish have a very acute sense of touch, while the mud-fish is rather stupid in this respect, and so the mud-fish is always

bumping against something in the dark, and that gives the blind fish a chance to catch up and capture the mud-fish."

"What funny picture have you there, Aunt Nan?" said Al, as he caught sight of a drawing in his aunt's lap.



"It is called a Proteus," said Aunt Nan, as she held the picture so that all could see it.

"Is the creature named after the old Greek god, Proteus?" asked Mr. Perry.

"I suppose so," said Aunt Nan.

"Who was the old Greek, papa?" asked Kittie.

"A sort of sea god that the Greeks believed in," said her father. "They had a story that this sea-god could prophesy things to come, and that he lived in the Carpathian Sea and slept on the shore. If found and asked a question about the future, he always refused to give an answer; if the person grasped him to hold him, he would turn into different shapes, hoping to get out of reach."

"Is your Proteus blind, Aunt Nan?" asked Kittie.

"Nearly," said her aunt. "It is found in the caves of Carniola, in the southwest part of Austria. I was reading the other day a book by Professor Karl Semper of the University of Würzburg, and he said that he had kept a family of these creatures for four years, and he was sure that they could tell the difference between light and darkness. But he did not believe that they could see things clearly, because their eyes are very poor and are entirely covered with skin."

"I think they must see about as well as the Australian blind snakes do," said Mrs. Perry. "They live in ants' nests."

"Then there are blind fish in the ocean," said Mr. Perry. "They live at a great depth, and people did not know about them till a few years ago. And there are hundreds of blind cave insects and spiders."

"Then there is a kind of craw-fish in Mammoth Cave that is just about blind," said Blanche; "I was reading of it this last week."

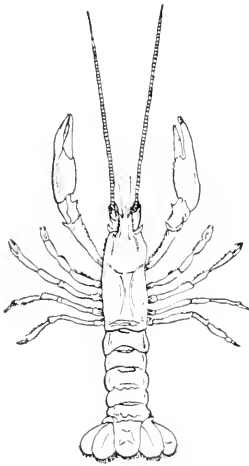
"Well, the blind creatures that I read about were made blind by human means," said Mrs. Perry.

"What creatures were they?" asked Kittie.

"They were some bats," said her mother, "and they were made blind by an Italian, the Abbé Spallanzani, who lived near the end of the eighteenth century."

"What did he make them blind for?" asked Blanche.

"Because he wanted to try to find out how bats could fly in dark passages, where there was not enough light so that they could see anything, and yet not hit against things. So Spallanzani captured a number of bats and deprived them of sight, either by putting hot wires into their eyes or by taking the eyes out altogether."



BLIND CRAW-FISH.

"Oh! the cruel man," cried Kittie; "how could he bear to do such a wicked thing?"

"I don't know," said her mother. "It was perfectly shocking, I think; but Spallanzani may have thought, as too many investigators have, that it was right to commit cruelty in the cause of science. But these poor bats, after having been deprived of their

eyes, flew just as well as before. If a stick was held up in front of them when they were flying, they avoided it just as if they saw it, and if a cat appeared, or if a person tried to put his hand on them as they hung resting, they flew out of harm's way as quickly as they had done before, and seemed to be even more careful not to be captured than they were to avoid bumps against the walls. Spallanzani allowed one of the blind bats to be free in a long, underground passage which, at about the middle, turned at a right angle. The blind bat flew through the two parts of the passage and never hit the sides at all, and, at last, discovered a little hole in the roof, and though more than a foot away from the hole, yet the bat changed its course just as though it had seen the hole, and tried to fly up into the cranny and hide itself.

“Another experiment was tried in a garden where a sort of cage had been made out of nets. From the top of the inside of this cage sixteen strings were fastened so as to hang down, and then two bats were put inside. One of these bats was blind and the other could see, but they flew equally well, never bumping

against the strings or touching them except with the ends of their wings. At last the blind bat proved that it was really smarter than the other that could see, or else it was smaller than that one, for it found that the meshes of the net were big enough to let it get through, and out it rushed and flew into the garden. After a while the blind bat flew up to the only roof that there was near by, and hid itself there. So, at last, from his experiments, Spallanzani proved that it could not be that the bats depended on their eyes in flying through dark passages."

"Was he satisfied then?" asked Al.

"No," said his mother, "he tried other experiments. He put varnish on the outside of one blind bat, but that did not seem to prevent it from flying well, so Spallanzani thought that bats could not depend on the sense of touch. Then he thought he would try the sense of hearing. So he filled up the ears of a bat with wax, but still the bat flew and avoided all objects, and so Spallanzani knew that bats did not hear their way in the dark. There were only two other senses, smell and taste, to be tried. At first, Spallanzani

stopped up the nostrils of the bats so that they should not smell anything when flying, but of course they could not breathe, either, so they soon fell to the floor exhausted. So, instead, Spallanzani hung before their nostrils pieces of sponge that had been filled with camphor or musk or something that would give out such a powerful odor as to overcome common odors and prevent the bats from smelling their way along in the air, if that was the way that they usually did. But still those unconquerable bats flew as well as ever, and they continued to do so when they were deprived of the sense of taste. So, at last, Spallanzani gave up his experiments, saying that he thought bats have some sixth sense, such as human beings do not have, and by this they find their way so readily."

"So his cruel experiments didn't bring him much nearer the truth than he was before he did all that wickedness," said Al.

"But did any one ever find out why bats do fly so well?" asked Kittie.

"People believe now what Cuvier thought," said her mother, "that the directness of a bat's flight depends

on the great sensitiveness of the wings to touch. But I think I should have to want to know a thing pretty badly before I would try any such experiments as Spallanzani's."

"Well, I should think so," said Al indignantly, as the "Blind Night" meeting broke up. "The rules of this club forbid cruelty to animals, and I don't even like to hear about such awful doings."

CHAPTER II.

THE SEVEN DIVISIONS.

“HYMENOPTERA, Lepidoptera, Diptera, Coleoptera, Hemiptera, Orthoptera, Neuroptera.” That was what Kittie sang over and over to herself as she went around the house, dusting.

Blanche recited the same thing when she wiped dishes and swept, and Al wrote the list in big letters on a little blackboard that hung in the dining-room.

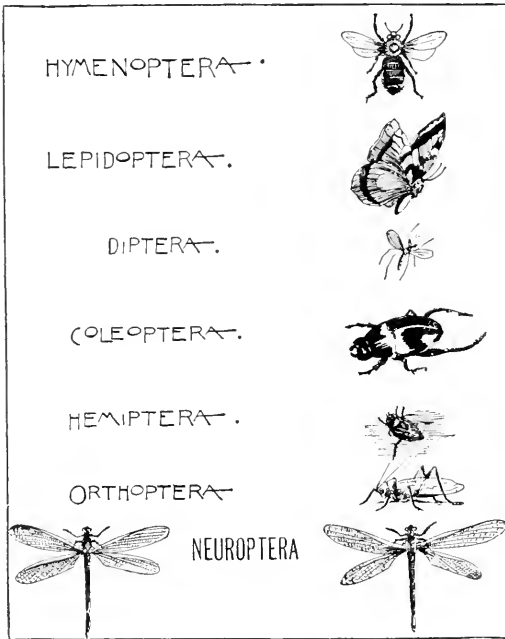
The seven divisions of the insects seemed to be in everybody's mouth. Aunt Nan declared that she had become so used to hearing them recited that she sometimes found herself repeating the seven over and over without thinking what she was doing.

Al further ornamented the blackboard and explained the meaning of the mystic words, by drawing pictures with colored crayons. Opposite “Hymenoptera” was a yellow bee; opposite “Lepidoptera,” a gorgeous black-

and-red butterfly. On a line with the word "Diptera" was a blood-hungry looking mosquito; a big black beetle stood and glared at "Coleoptera," and a pretty correctly drawn picture of a "water-boatman" illus-

trated "Hemiptera."

A grasshopper looked as though about to hop straight at the word "Orthoptera," and a couple of dragon-flies held joint possession of "Neuroptera."



AL'S BLACKBOARD.

But another matter claimed the attention of the Look-About Club. It was the application of a

person for membership. The Perrys had, to use Al's expression, "stacks of relatives," and one of these, a little girl-cousin named Alice, lived in California. She had heard of the Look-About Club, and sent a letter

asking if she might join it. The older members of the club agreed that it should be just as the three younger members said, and so one day Al and Kittie and Blanche were assembled in solemn conclave in the bay-window of the dining-room, there to decide the important question as to whether the applicant should be let in.

“I wonder if she is nice,” said Blanche, as she looked again at the little letter on the table. “I don’t believe I want her to join very much. It seems nicer to just keep our club to ourselves.”

“But I suppose she would think we were rather selfish if we did that,” said Kittie, who was reading the letter over to herself. This is what she read:

DEAR COUSINS:

I do not suppose you know me at all, but my name is Alice, and I am your cousin. So is Bert. He is my brother. My papa’s a doctor, and he has an office down town, over the drug store. Papa always lets Bert and me come and see him in the office when we want to. Some little girls would be ’fraid to go there, ’cause there’s a lot of bones they call a skel’ton, hanging up behind the door, but Bert and I ain’t ’fraid. We go right by them and ain’t scared one bit.

We’re lots of help to papa, too. We can tear up cloth so as to make bandages, and we scrape lint, and we go round with papa when he rides out to

see the sick folks, and we hold the horse while papa is in the houses. And I get glasses of water for folks when they come to the office to have their teeth pulled, and I water the plants in papa's window and keep his vase full of flowers, and Bertie carries some of papa's bills round to folks that don't pay. We're real useful, I know, 'cause papa says he don't know how he could get along without us.

It's nice to be doctor's folks, sometimes. You get 'most as many things as a minister does. Folks that live in the country send us eggs, and cheese, and apples, and chickens, and once we got a big turkey on Thanksgiving. And once a man gave Bert and me a cunning little goat, 'cause papa had cured his baby that had the croup.

Then I like being doctor's folks 'cause Bert and I get all the pill-boxes after papa's through with them. Pill-boxes are real nice for band-

boxes for dolls' hats. Some of the pill-boxes are pink, and some are blue, and when you open some of them there's another little box inside, and in that there's another one, till sometimes there are four or five right inside of each other, and the littlest ones of all are real cunning; just big enough for a baby-doll's cap. I trade off my pill-boxes to the other girls at school. None of their fathers have any pill-boxes to give them, and I guess they wish their papas would be doctors, too, like mine.

But sometimes it isn't one bit nice to have your papa a doctor, 'cause he has to go away off over the mountains, when it's real dark at night, to see sick folks, and sometimes the horse gets scared and throws him off and hurts him real



TWO BRAVE LITTLE PEOPLE.



BEING USEFUL.

badly. Once the horse ran away and hurt papa so that some men had to pick him up and bring him home, and it scared us awfully, 'cause we thought he was dead; but he wasn't, only he was sick for a long time so that he couldn't go down to his office. And Bert and I had to stay at home.

Then I 'member another time I didn't like at all. I'll tell you 'bout it. Well, once I worked and worked real hard, to make mamma

a red tidy. It was for her birthday, and it was to go on the big rocking-chair in the parlor. Auntie showed me how to make it, and I bought the worsted with my own money, and I made it nights, after school, up in my room.



MAKING THE RED TIDY.



ALICE ANSWERS THE RING.

dreadfully afraid papa would take it, he had to see so many sick folks.

Well, one night, after it began to grow dark, there was a ring at the

It was the first tidy I ever made, and it looked real nice. Mamma liked it ever so much, and she put it on the big rocking-chair, and papa said he thought it was just the prettiest thing in the parlor. It wasn't, really, you know, but he just thought so 'cause his little girl made it.

Well, just about that time everybody was getting scared about the small-pox. Lots of people had it, and we were all vaccinated. Mamma was

door, and I went to see who was there. The others weren't through eating supper yet. There was a big man at the door, and he said, "Is the doctor at home, little girl?" And I said, "Yes, sir; won't you come in?" So he walked into the parlor, and I told him to sit down in the big rocking-chair, and I'd call papa. It was so dark that I could hardly see the man's face.

Well, I went out and called papa, and he left his supper and went into the parlor with a light, and the next thing I heard him say, "My stars!" and then we heard the man say something, and then he went out the front door pretty quick.

Papa came back to us, and he told us that that man was all broken out with the small-pox, and there he'd been sitting in the big rocking-chair, leaning back right against my new red tidy! Papa ran and took the big chair

out-doors, and mamma opened all the windows quick, and gave the house a good airing. And then we took a shovelful of hot coals and sprinkled sugar on them, and poured on vinegar, and went through the rooms with that smoking and making an awful smudge. And papa went 'round sprinkling all the rooms with some dreadful smelling stuff he called 'bolic acid.

And I had to be vaccinated all over again, 'cause my last vaccination hadn't taken. And don't you think my lovely red tidy, that I'd taken such pains to make, papa tore off from the chair with the tongs and burnt in the fire! Wasn't that too bad?

And we kept the big rocking-chair outdoors in the hay-field for weeks and weeks. We threw water on it, and washed it with the hose and scrubbed it with the mop, 'cause we didn't dare go near it, any of us. At last papa brought it into the house, but it didn't look fit to be in the parlor any more; it had to stay in the

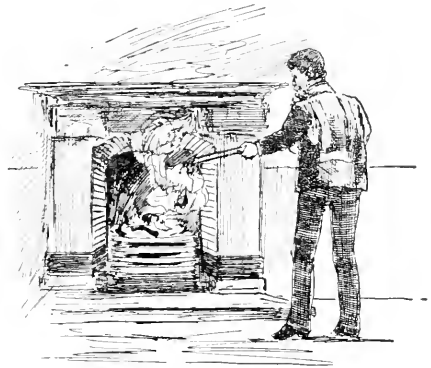


SPRINKLING THE ROOMS.

kitchen. And for all we were exposed so much, none of us caught the small-pox; and so mamma said we ought to feel thankful; and so I did, but I felt sorry, too, 'cause the red tidy was all burnt up, and I don't know whether I like having my papa a doctor or not since that night. Would you?

Anyway, my papa knows ever so much, and he heard about your Look-About Club, and he likes it and he wants me to join it. I want to, too. May I? I wanted Bert to join, but he says he won't, not yet; not till he sees how I like it. Good-by! Please write and tell me if I can join.

Your cousin,
ALICE.



QUITE DISHEARTENING.

“If her papa ‘knows ever so much,’ the way she says, then maybe he will tell her everything, and she will get ‘way ahead of us,” suggested Blanche discontentedly.

“I don’t believe it,” said Al. “We have studied one year now, and I don’t believe Alice can catch up with us in some things. Then maybe she will find some live things out there that are different from those we have here, and she can tell us about them, and that will be interesting. And as soon as it gets pleasant enough we will go dredging and insect-hunting again, and see what we can find to write to her.”

“Do you really mean to go dredging again this year?” asked Blanche. “Seems to me we found ‘most everything we could find in the brook, last year.’”

“You wouldn’t think so if you had seen the list of questions that papa gave me,” said Al, as he hunted in his pockets and finally produced a paper. “Just listen to all these.” And Al read as follows :

1. What is a Ranatra?
2. What is a Triton?
3. What shape are the eggs of the water-boatman, and what kind of larvæ come from them?
4. Larvæ of *Gyrinidæ*?
5. Ditto of *Ploteres* or *Hydrometridæ*?
6. Which are the beetles known as the water-lovers, or *Hydrophilidæ*, and what are their eggs and larvæ?
7. Which are the beetles known as the water-scorpions, or the *Nepidæ*? and describe their eggs and larvæ.

“My!” said Blanche, as Al, having impressively read the seven questions with a pause between each, to see if any answers were forthcoming, folded the paper once more and put it away. “What a dreadful lot of

questions! Sure enough, we didn't look for the eggs or larvæ of any of our beetles last year, did we?"

"None but those of the *Dytiscidæ*," said Al. "You remember we did find a few of their larvæ, and Aunt Nan wrote about them in our pamphlet. But I don't know their eggs. We were too busy, last year, to learn everything."

"Do you suppose we can ever find the answers to all those questions?" asked Kittie dubiously.

"Well," said Al, "papa says that the answers are in the brook, or will be there before the summer is over, and all we can do is to look and see for ourselves."

"I wish it would hurry up and become pleasant weather," said Blanche, looking out at the dismal landscape. "We folks can't go dredging for months yet, and I s'pose, in California, Cousin Alice could go this minute, if she wanted to. She will get ahead of us, I know, for she can be at work while we just have to be shut up in the house."

"Never mind," said Al; "maybe her brook will dry up in the summer. Just as likely as not it will, for lots of California brooks do dry up in the long, hot

weather, and then she can't be dredging, and we can. So maybe we'll really have about as long to learn things in as she will, take the year 'round. And we can keep on studying from books till it is pleasant, and anyhow, we've got one year's start of her, because we studied last year. I don't believe she can beat us much."



THE NEW MEMBER.

"She sha'n't," said Kittie; "I'm just going to learn everything I can."

"People who really care about learning are not generally so jealous of others as you seem to be," said Aunt Nan, as she came in to put away some things in the dish-closet. "They are always glad to have other folks find out the truth about things, even if it does show that those other people are smarter than themselves."

Kittie and Blanche looked at each other with rather red faces as Aunt Nan went out of the room.

“Well, I guess we’d better let Alice join,” said Kittie, after a little, and as there was no dissenting voice, it was considered decided, and Al was appointed to write to his cousin and tell her that she now belonged to the Look-About Club, and would be expected to report once in a while, what she found.

CHAPTER III.

THE HYDROPHILIDÆ.

ALICE and her father did discover the Hydrophilidæ, or “water-loving” beetles, before the rest of the club found them. One February day when Alice was dredging in a little brook, she found a black beetle that shone underneath like silver when it was in the water. It was only the air that the beetle carried down with it, however, that made it shine.

Alice brought it home and showed it to her father. He looked at it carefully and finally told her that he was quite sure that it belonged to the Hydrophilidæ. The little beetle was about three eighths of an inch long and a quarter of an inch wide.

“He’s sort of humpbacked, isn’t he?” said Alice, as she looked into her bottle. And the beetle did look a little so; that is, its back was quite convex in shape.

“Just look at his hind feet, papa,” said Alice, after a

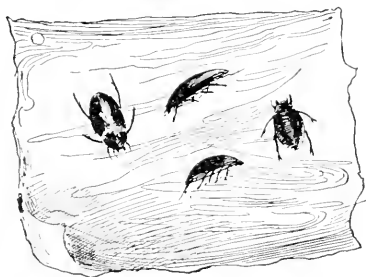
little. "Don't you see, he wears little black spurs. I wonder if they're sharp. There are two spurs on each of his hind feet."

"There are some on his middle and first pairs of feet, too," said her father, and pretty soon Alice saw that this was so.

"What shall I do with him, papa?" said she.

"I think you had better keep him in some water and give him a piece of water-weed to nibble," said her father. "By and by you and I will go down to the brook and get a number of those beetles and set them up housekeeping in a bottle, and we'll learn how they live."

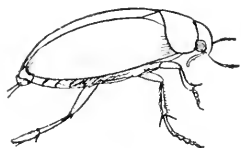
A while after this, Alice and her father made the promised expedition and brought home about twenty of the small beetles. They were chiefly to be found in the mud at the bottom of the pool, but sometimes were to be seen coming up to the surface of the water, or crawling on the water-weeds beside the brook.



SMALL MEMBERS OF HYDROPHILIDÆ.

“Why, papa, didn't that beetle squeak?” asked Alice, as her father captured one and put it into his bottle. “Doesn't he like to be caught?”

“I guess not,” said her father. “He must have thought that something dreadful was going to happen to him, but I had no idea that he could squeak like that.”



HYDROPHILUS PICEUS.

After Alice had kept her beetles a while, however, she became quite used to hearing squeaks from them. They could make sounds that could be heard across a room. They almost always made these sounds when they thought they were in danger, or when they were about to be caught.

Alice did not find out, however, till one of the beetles died and she examined him, that the Hydrophilidæ have still another spine, on the under side of the body, just at the end of the ridge running down the sternum, and looking like a little concealed black pin.

“My!” said Alice, when she discovered this, “I guess if that should stick into me it would hurt. It's real sharp,” touching the little black spine cautiously.

“Yes,” said her father, “I have read that in some large African species of these beetles that spine of the sternum is developed till it makes a very long and sharp stiletto; and it is supposed that the beetle uses this stiletto to defend itself with.”

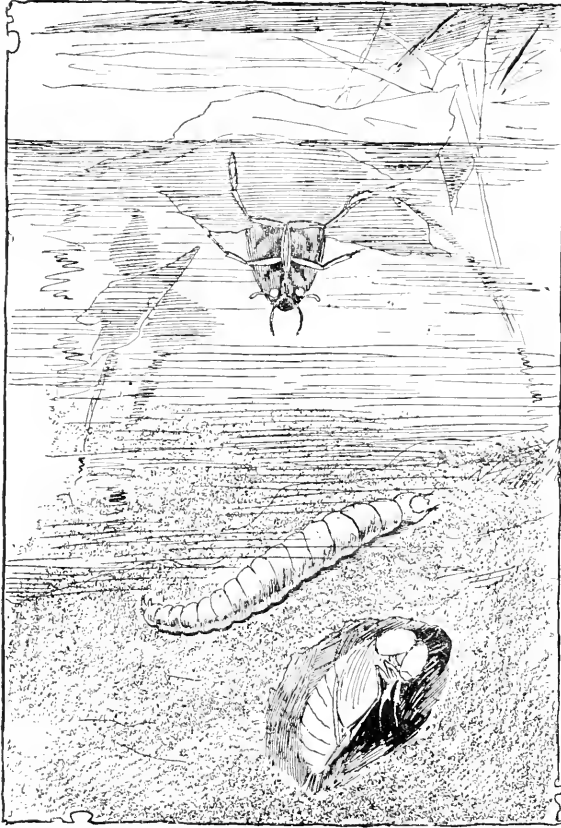
“That’s just the way Tillie Russell does at school,” said Alice. “She’s always sticking pins into the girls, and I’m going to tell her that she’s just like my beetles. I don’t believe I’d want to go dredging in Africa. A spine like the one this beetle has would be sharper than I’d want to feel.”

“Yes,” said her father, “I think that the Hydrophilidæ deserve to be arrested for carrying concealed weapons.”

“I’m glad of one thing,” said Alice, as she gazed at her bottle, “and that is, that these beetles won’t want to eat things alive, the way those beetles did that Blanche and Kittie kept last year. I guess if I give these lots of water-weeds they’ll be satisfied.”

They were not so well satisfied, however, that they did not try to get away, and after Alice had seen several tumble out of the bottle and one try to raise its

wings and fly, she tied a piece of mosquito-bar over the top of the jar and kept the Hydrophilidæ at home.



THE METAMORPHOSIS OF HYDROPHILUS PICEUS OF EUROPE.

Whenever these beetles wanted air they would come up to the surface of the water and there, instead of floating wrong side up and taking air through the end of the body, the way the water-b o a t m e n had done, or securing a bubble of air and taking that down to the bottom of the jar,

the way the Dytiscidæ had done, these beetles put up their heads in a sort of sidelong fashion and took the

air that way. Then they would rush down again, the shining silver air covering all the lower part of their bodies, as it always did.

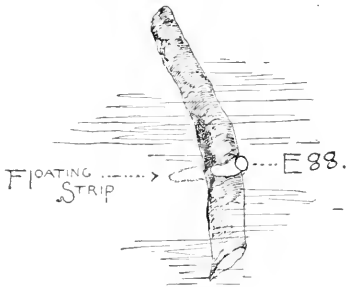
Alice's father told her that that is the way one of the big members of this family does. The big member lives in Europe, and is about an inch and a half long. Its name is *Hydrophilus piceus*, or the "pitch black water-lover," as that name means, and this beetle is so heavy that it cannot hold itself horizontally at the surface of the water, but it pokes its head out and folds its antennæ. Now these antennæ are very curiously made, the club-shaped ends being partly hollowed out, and in this way the beetle catches a little bubble of air which is pressed against the lower side of the beetle and spreads till it comes to the little breathing holes.

After some days Alice came rushing in, holding her bottle and crying, "Papa, just see what I've found!"

"What is it?" asked her father, looking up from his newspaper.

Alice ran and handed him the bottle. The beetles inside were by this time in a great state of fright, for they had been pretty thoroughly shaken.

“Just see that white thing,” said Alice, pointing into the jar. A stick was floating there and a queer white bunch was attached to it. “What is it, papa?” asked Alice.



EGG OF HYDROPHILIDÆ.

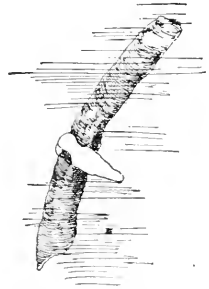
“It is an egg,” said her father.

“Why, it looks for all the world as though it were made of candle-grease,” said Alice, peering in.

The egg was white and shaped something like a little cylinder. It looked as though the stick had suddenly sent out a little white branch. The egg seemed to be closed, but a short white streamer of the same material as the egg floated from one side of the top and hung in the water.

“If I’d seen that down at the brook, I’d have thought a spider spun it,” said Alice, examining it more critically.

“You might take it out and put it into another bottle by itself,” said her father, and cautiously the

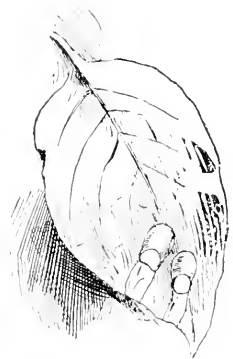


SAME EGGS IN DIFFERENT POSITION TO SHOW THE FLOATING STRIP.

stick was fished out without letting any of the beetles escape. The long streamer fell back over the top of the egg as the stick was drawn out of the water.

Alice put the stick into a little bottle of water and further developments were awaited. Other eggs appeared soon in the Hydrophilidæ bottle, on leaves and on the inside of the glass. The eggs were usually about three eighths of an inch long and a little more than one eighth in diameter. This measurement did not include the floating strip, which was sometimes five eighths of an inch long. In other eggs this strip was almost entirely lacking, and even when present did not always fold over the egg when it was taken out of the water. This bottle formed a most interesting study.

“The yellow eggs are all covered up in that white cocoon by the mother-beetle,” said Alice’s father to her. “I read in one book that the mother has two little spinnerets, which are very strange things indeed for a beetle to have, and she spins that white stuff for the cocoon,



TWO EGGS OF LITTLE HYDROPHILIDÆ LAID ON A PERIWINKLE LEAF.

as though she were a spider fixing up a lot of her eggs."

One day, several weeks after this, Alice was looking at the first egg. She was becoming impatient with it. Why did the larvæ not hatch? The egg was growing greenish and the floating strip was bordered with a line of green.

Suddenly she became aware that there were some queer things around the egg. They were so small and white that she hardly noticed them at first. One little fellow was just pulling himself out, and through the semi-transparent walls of the egg, she could see, for a minute, the part of his body that had not yet come out into the water.

The larvæ were queer little, grayish white things, outlined with dark around the edge, and were about one eighth of an inch long, exclusive of a kind of pair of little horns that each wore, extending from the head. It was afterwards discovered that these so-called "horns" were a kind of pincers by which the larva grasped its prey. Each larva had six little white legs, so thin that they looked like threads of spider-web.

One looking at the larvæ closely could see quite well the little black dots of eyes that the infants wore.

“There are ten of them. Give them a piece of a leaf to eat, and let them be happy. It’s lucky we know their ancestors, for now we can tell what will suit the children,” said Alice, with premature self-congratulation.

But after a few days there seemed to be trouble in that bottle.

“What does become of those larvæ?” asked Alice. “There were ten, and now I can’t find but four.”

Her father looked into the bottle, held it up to the light, shook it, and then solemnly pointed at the bottom. Alice looked.

“Why, they’re dead,” said Alice, as she discovered some of the little bodies of the larvæ lying under the stick. “What can have killed them?”

“Perhaps if you watch you will find out,” said her father, and in a few days a dreadful fact was revealed. The Hydrophilidæ larvæ were cannibals. They killed each other. Alice came upon one of them holding a brother aloft, his horns stuck into the body, evidently in the act of making a meal off from his relative.

“The wicked thing!” said Alice wrathfully. “There, now! He’s gone and killed the only live larva beside himself. Now he will have to starve, for there isn’t anything else for him to eat.”

But her father interfered in behalf of the murderer.

“I’ve been reading about the Hydrophilidæ,” said he, “and I’ve found out that the beetles themselves are mostly herbivorous, and that’s the reason why we’ve kept them so easily by just giving them a few weeds from the brook, and a dead earthworm now and then. But the larvæ of the Hydrophilidæ are carnivorous, and eat little worms, and I suppose that the reason that they’ve been killing one another is that we have not given them any worms at all. So you see, we are really partly to blame for their bad conduct. I’m going to get this fellow something to eat,” and he took the dredger and went off to the brook.

He returned, after a time, with two or three minute black-headed worms, the larvæ of gnats. Alice took the last remaining larva out of his bottle and put him into the lid of a tin can, so as to feed him more easily in the shallow water. Then Alice put the black-headed

worms into the lid. They immediately wriggled to the side and hitched themselves up till entirely above the water.

“The larva never can reach them there,” said Alice, and with a little stick she pushed one of the worms down into the water and guided it to the larva. That



EGG COCOONS OF HYDROPHILUS PICEUS OF EUROPE (*magnified*).

creature received it gladly, but when, the next day, Alice offered another worm, the larva did not seem to care for it.

“Perhaps he isn’t hungry yet,” said Alice, but the next day, the larva acted just the same. He stayed down at the bottom of the water, making short walks about his home, but gradually grew more stupid and at last died. So the first Hydrophilidæ egg was an entire failure.

“What would my larva have done if he had lived?”

THE HYDROPHILIDÆ.

asked Alice, as she looked at the mite of a thing lying motionless in the water.

“He would have changed his skin several times,” said her father, “and when he had become fully grown as a larva he would have buried himself in the earth and become a pupa. When he came out to the light again he would have been a perfect beetle.”

But hard as Alice tried to care for other beetle-larvæ that came from other eggs, yet she never could succeed in keeping them till they were fully grown. Once she thought she was going to be successful. The larva developed a taste for fresh water shrimps and Alice kept him well supplied with these little creatures. But from some unexplained reason, after the larva had grown finely and seemed quite healthy, one day he died, and Alice was left lamenting. That night she wrote in her note-book, “It’s a good deal harder to bring up a beetle than I thought.”

CHAPTER IV.

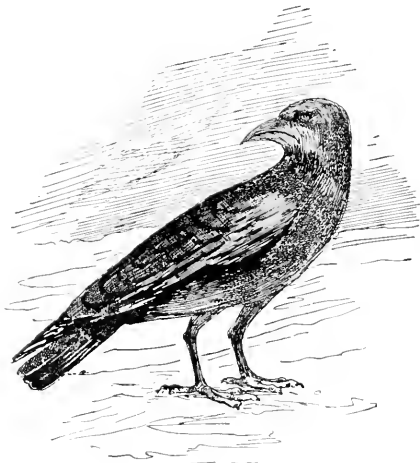
THE CLUB'S PAMPHLET.

So well had Aunt Nan and Al's pamphlet been received the year before that the two publishers thought they would venture to bring out a new one. There were two copies of this "Pamphlet No. II.," for one had to be sent to Cousin Alice. That young lady was quite astonished at the present, for she had not known anything about the Look-About Club's book-making abilities, not having seen "Pamphlet No. I." The new pamphlet began with

A RAVEN'S COMMUNICATIONS.

Yes, I suppose that people do say that I am a thief. I know that I do pick up things and hide them. But the Indians of the North Pacific coast have a story that once a raven stole something that turned out to be a

blessing to men. The Indians say that once when the world was new there was no fresh water on the continent. A selfish person named Khanukh kept all the fresh water in his well, and this well was on an island east of Sitka in the Pacific Ocean. All men longed for some fresh water, but this selfish person kept it;



THE RAVEN.

and to make sure that no one should come and steal some of it, he built his hut over the mouth of the well. But Yehl, who was in the shape of a crow or raven most of the time, and who is the raven-god of these Thlinket Indians, determined that he would get some fresh

water for the poor, thirsty people living on the earth.

So Yehl went and found the selfish person Khanukh. The old man was very polite and invited him to come into the hut and eat. He gave Yehl many nice things for dinner; among them was some fresh water.

After dinner the two sat down, and Yehl began to talk. He talked so long that the old man fell asleep, but unfortunately, he slept on the cover of the well, so that Yehl could not steal the water as he had intended to do. So he woke up the old man, and on some pretense made him go down to the seashore. No sooner was he gone than Yehl hurried to drink all the water he could, and then changing to his raven shape, he flew up the chimney, thinking to get out that way and fly home.

But, alas! the chimney was too narrow, and Yehl stuck in it. Just at that minute the old man Khanukh came back from the seashore. He looked around, and not seeing his visitor in the hut, he looked up the chimney, and lo! there was a bird. Khanukh knew at once that Yehl had changed himself to a raven, and he determined that he would punish him; so he built a roaring fire in the chimney and sat down to see how the raven would like the smoke. Before this the raven had been a white bird; but while he was in that chimney he became so covered with smoke and soot that he has ever since been the blackest of birds.

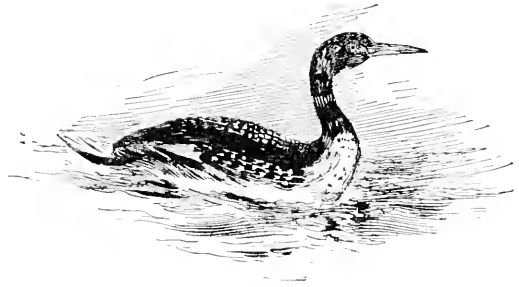
At last old man Khanukh fell asleep again, and poor Yehl flew down and out of the hut. He still had the water he had drunk, and as he flew over the continent he let drops of the fresh water fall from his beak down to the land. And wherever a little drop fell, there a spring or a creek sprang up, but where a big drop fell, there grew a lake or a river. And so, say the Indians, the raven was a good bird to men and brought them water. I presume, though, that you do not believe that story. I do not myself, great as would be my joy to hear anything good said about my folks.

The Indians have a good many tales about birds, anyway. Do you know that big swimming bird called the Loon? Maybe if you have not seen him, you have heard his loud cry sometime when you have been in the woods. Well, the Indians on Vancouver's Island have a story about the loon. They say that the loon was once a fisherman, and the way he happened to turn into a bird was this. Once, long ago, two fishermen went out to sea in their canoes. One of the men caught but very few fish. The other fisherman began to make fun of his unlucky companion, and this made

the unfortunate fisherman so angry that at last he knocked the other on the head, cut out his tongue and stole all his fish, and then went back home.

But although the poor fisherman had been so badly used, yet he made his way back to the shore, where he tried to tell people how dreadfully he had been treated.

But people could hardly understand him, for he could not talk well without his tongue, and it came to pass that he was changed into the bird called the



LOON.

Loon, and whenever any one hears this bird making its loud cry by the still lakes or rivers, one may know that it is the unhappy fisherman trying to tell of the misfortunes that befell him on the sea. The same Indians say that the other wicked fisherman was changed into a crow; but I feel quite offended to have such a thing as that said, for the crows are near relatives of mine. So are the magpies and the jays. We

all belong to the *Corvidæ*, or crow family, and people have told stories about other members of that family beside myself. You know that some people have an



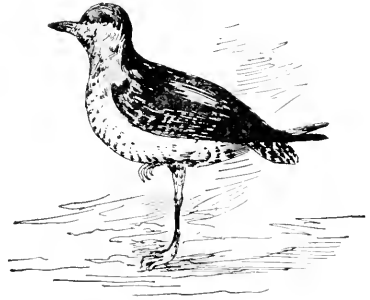
THE MAGPIE.

idea that it is unlucky to meet a magpie. They say that the magpie was the only bird that refused to go into the ark with Noah. This magpie would sit on the roof of the ark and jab-

ber to itself about all the beings that were drowning in the water. But I do not believe that the magpie was so bad. If there were any magpies in those days I think that they went into the ark like sensible birds. I am sure that the ravens went in, for Noah sent one out afterwards, you remember. But there are people who dislike magpies very much, and many persons in England have a silly notion that no one should ever throw away any hair that has been cut from his or her head, for fear that a bird should find the hair and use it in making its nest. And those people believe that, if this should happen, the person on whose head the hair

grew would die. If the bird that found the hair were a magpie, the people believe that the person would die "within a year or within a day."

It is astonishing how many queer stories have been told about us birds. There are the plovers, those long-legged birds that wade in shallow water and live on worms and such things. Some people call these birds "the wandering Jews," because there is a story that the plovers contain the souls of those Jews that assisted at the crucifixion of Christ, and were always after condemned to inhabit the bodies of birds. And there are persons who think that any one who hears a covey of plovers passing overhead will soon have bad luck. But if those people were not so foolish they might learn that the plovers are only leaving their old home and flying to a new one. The reason why the plovers have their name is that they make such changes in their homes during the rainy season in autumn.



THE PLOVER.

I will tell you one more queer thing about birds, and then I must stop, or folks will begin to think that I am becoming as great a talker as the blue jays. I hope I shall never quarrel as much as they do, though. Well, the thing that I was going to tell you is about the swallows. You know them, don't you? I am sure you must. In Volhynia, which is a part of Western Russia, the common people believe that the souls of dead children come back in the spring in the shape of swallows and go to the villages, where the children lived, and try by soft twitterings to comfort the lonely fathers and mothers that were left behind. And I suppose that many a mother has looked at a swallow skimming by and has wondered if it could be her own little boy or girl coming to comfort her. Of course it could not be. No child's soul could ever come back in that way. But I think that no boy in Volhynia would dare to throw a stone at a swallow if he thought that it was his own little brother coming to see him. Once a good man used to call the birds and all other creatures his "brothers and sisters." I do not think he was very far wrong; for the Father that created men made us also.

A NEW ACQUAINTANCE.



LARVA
OF
WHIRLIGIG
BEETLE.

Allow me to introduce myself to you. Although you do not know me, I presume that you are acquainted with my parents and relatives. They are the little whirligig beetles. You often see them whirling about on top of the water going so fast that your eye can hardly follow them.

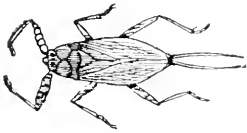
I shall be a beetle, too, and go whirling some day. Just now I am a thin, yellowish-white thing, as you see, looking something like a centipede. I have gills on my sides and I always keep these gills in motion. Often I do this by wriggling up in the water for a few inches and then letting myself sink to the bottom again, with my white gills stretching out like plumes on each side of me. The only thing that I fear is that now when I am becoming so nice and plump, some hungry water-scorpion may happen to see me and think that I look fat enough to be eaten. Water-scorpions are always the



WHIRLIGIG
BEETLE.

enemies of us whirligig-larvæ, and I'll be glad when the time comes for me to go up to the top of the water and make a cocoon on some leaf growing there. When I come out of my sleep in that cocoon, which will not be for a month or so after going into it, I shall be a perfect whirligig, and shall jump right into the water.

I hope I shall have more sense than some whirligig beetles have, for my ma says that in the Indian Ocean there is an island where invalids go to be cured by



SCORPION-BUG (*water*).

some mineral waters, and there, in a little lake, live a number of a certain kind of whirligig beetles, and the sick folks amuse themselves by fish-

ing for the beetles with lines that are baited with pieces of red cloth. The whirligig beetles attack the red cloth, and are caught themselves sometimes, I guess.

We whirligig beetles have another name by which wise folks almost always call us, and that is "Gyrinidæ;" but that only means the "Whirling Family."

It is funny to think what kind of eyes I shall have when I become a beetle. My folks all have such eyes.

so I know that I'll have them, too. Our folks look as though they had four eyes; two that look upward and two that look downward. The lower ones are placed almost under the head of the beetle, and of course are always beneath the surface of the water. So my folks can look up into the air and down into the water at the same time.



BRAZILIAN
WHIRLIGIG.

That is very nice, because then they can be watching for any little flies or living things that come within reach, and yet can be looking to see that no fish or insect swims up from below to catch them. If any fish tries to catch a whirling beetle, the fish may be disappointed, for my relatives can fly right up into the air, if they see any such danger at hand.

My relatives do not whirl in the winter-time after the weather becomes cold, but they come down to the bottom of the water and hide themselves under stones or in the water-weeds, or else they burrow into the mud and try to keep warm that way.

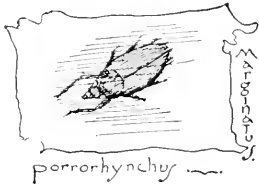


RANATRA FUSCA.

Some of my big tropical relatives are as much as

two thirds of an inch long; and my cousins in Brazil have astonishingly long front legs

But I must stop talking, for I know a stick is coming. That is, he pretends to be a stick; but he isn't; that is the worst of it. He is a long, narrow bug, named *Ranatra*; and just when you think that he is dead, he always becomes alive and catches something with those crooked front legs of his, and hangs the insect on that sharp beak, and sucks out the juice from his poor



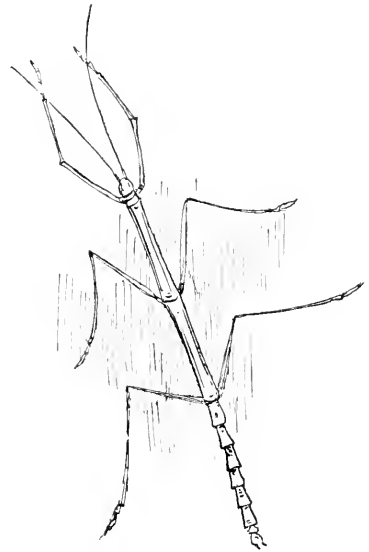
victim. I am going to hide.

I do wish, though, that I had time to tell you about a funny-looking relative of mine. His name is *Porrorhynchus*, and that queer word means something about a "snout," because this relative of mine has a pointed snout like a pig. But I cannot stop to talk about him now. Danger is too near.

THE WORK OF THE WALKING-STICKS.

I am going to hold on to this tree and try to live, even if the leaves do all tumble off and the other walking-sticks all die. A great many of my relatives have died lately. It is the fate of walking-sticks to be sensitive to frost, and to fall with the leaves of the tree that they have been eating. But there are a few more leaves left on this oak and I will not despair of living just yet.

It does not seem now as it did in the summer-time. Then, if you had come into these woods, you would have heard a queer kind of seething noise that was made by so many of



DIAPEROMERA FEMORATA.

us at work eating the leaves. For there were hundreds and hundreds of us walking-sticks this summer. This was the right year for us. You know that we are plen-

tiful only every other year, because it usually takes about two years for our eggs to hatch. Some are only one year in hatching, and so you will find some walking-sticks every year if you know where to look for them.



EGGS OF DIAPHE-
ROMERA FEMO-
RATA (*enlarged*)
(a.) *ventral view*
(b.) *side view*.

But I was between one and two years in coming out. The black, polished, white-striped egg that was mine had lain for two winters on the ground under the dead leaves beneath some trees before the May

morning came when I pushed open the lid of my egg and crawled out into the world. My egg looked a good deal like a seed of some tree, and you might have taken it to be that, if you had found it. There were a great many such eggs under those leaves. You could have scraped together quite a pile of them. But the walking-stick eggs a little way from me met with an accident; for there was a fire among those dead leaves one day and it burnt the eggs so that they never hatched.

When I crawled out of my egg I was very small, but I was about the same shape that I am now. I wore a pale yellowish-green suit of clothes then, though, instead

of a grayish-brown such as I wear now. It was fortunate for me that I was green, for I lived near the ground and I was easily hidden in the green grass.

Sister Diapheroma was not so careful to hide as I was, and she was gobbled up by a wandering turkey, as a reward for her stupidity. Numbers of my cousins, too, were eaten by hungry chickens.

I was about six weeks in getting my full growth, and I moulted two times. During those days we walking-sticks lived on those trees over beyond the edge of this wood. But one day, about July, our food gave out. Every leaf was gone from our tree-pantries.

Cousin Specter Stick was the one that ate the last leaf. We called him that because, although we were all thin, yet he was the thinnest of us. He had a pretty good appetite, though, and that was the reason why he ate the last leaf. I have always noticed that thin folks can eat about as much as fat ones, haven't you?



EGGS NATURAL SIZE
WITH YOUNG JUST
HATCHING.

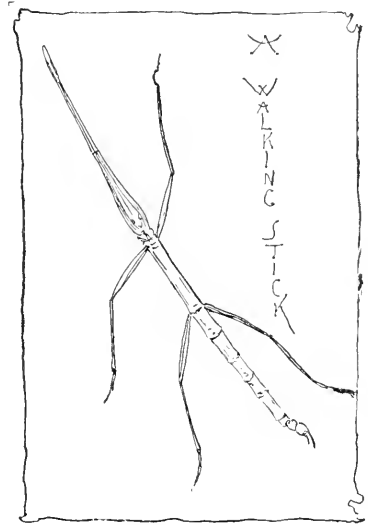
“We must move,” said Cousin Shadow, crawling off a bare limb of the tree and hurrying to the fence.

“So I say,” cried Cousin Long-Shanks. “Come on, everybody;” and leaving the seared and leafless trees, the whole army of us walking-sticks followed, covering the ground and the fence rails and crowding on one another in our haste to get over to these woods for dinner. Little did we care if a farmer’s boy did cross our path as we neared the woods. We climbed and crawled all over him, too, and he picked us off as well as he could and then he ran away.

But he did not get rid of us all. Two stuck to his back. One was Cousin Lean and the other was Cousin Thin. I expect that the boy afterwards dropped them somewhere else, for I have never seen them since. In this manner I lost two of the companions of my childhood. I suppose that the boy was afraid of them, for a good many people believe that we are poisonous and can sting or bite; but that is not true. The only harm that we do is in eating the leaves of trees. People say that any tree that has been stripped of its leaves by us will die within the next three years.

The minute we came into the woods we began to climb the trees. And here we have stayed and eaten

leaves, going from one tree to another, all through the summer. By September we had managed to make the trees look peretty badly. By that time we were well mixed up as to size, too; for walking-sticks that had forgotten to hatch in May kept hatching during the summer, and even now I think perhaps you might find some little walking-sticks. There were a few big walking-sticks that never changed their color but remained green to the end of their days. Some folks do, you know. But none of us walking-sticks grew as much as some of my tropical relatives must. For some of them, I am told, are over a foot long — not measuring their legs, either.



FULL-GROWN WALKING-STICKS.

One day the first leaf fell from this tree.

“Did you throw that down?” asked Cousin Specter-Stick.

“No,” said I. “I’m afraid this tree is becoming old.”

Then another and another leaf fell.

“I’m so cold,” mumbled Cousin Needle. “I — I don’t believe I can hold on much longer,” and suddenly Needle lost her hold and fell to the ground.

“Poor thing!” said Cousin Green-coat, peering down through the branches. “She was hatched with the leaves, and she died with them. We shall all follow her soon.” And his words were prophetic; for there was a heavy frost that night, and in the morning Green-coat lay prostrate beside Cousin Needle.

After these two deaths others rapidly followed till the ground was strewn with the bodies of my dear relatives. The leaves rustled down and buried them out of sight.

But, as I said before, I don’t intend to die, if all my cousins do. I have been thinking, though, that I don’t believe that my Brazilian relatives have any colder times than I am having here. Those Brazilian walking-sticks that I mean, spend their days under water in the mountain streams, and although I do not see how they can live so, yet I don’t think they can be much colder than I am in this tree nowadays. Anyway, I am so

much the color of this bark that I think no bird will look between the leafless branches and find me, and I am going to hold on as long as I can.

THE FOLKS THAT LIVED IN A JELLY GLASS.

I am one of the folks. This is an old jelly glass, and it has only water in it now, and we folks live in the water. Every day a girl comes and takes up this glass and looks through a microscope at us. And every day, when she sets our glass down after looking, she says, "What queer things they are!"

She means us water-folks, or "water-fleas," as we are called. There are several kinds of us in this glass. We are all called "water-fleas;" but the different kinds of us have separate names, too. Now my name is such a long, hard one that I cannot expect you to remember it, and, indeed, I do not believe that I could remember it myself, if that girl did not say it over every day when she sees me. This is my name: *Cyclops communis*.

Isn't that an awful name? But then it isn't so bad

when you know what it means. I get my first name from the Cyclops, a race of giants that the old Greek folks used to believe in. The Greeks said these giants



“WATER-FLEA” (*enlarged*).

had only one eye apiece, and they wore this eye in the middle of the forehead. It may be that the Greeks got this idea from seeing some miners wearing a lantern apiece on the forehead; who knows?

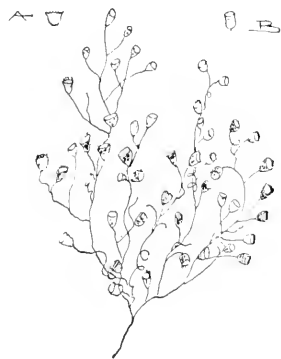
And, you see, that is just where I wear my eyes. I have two eyes, but they are so close together that they make only one spot in the middle of my forehead, and when my folks were first named people thought we had only one eye apiece, like the Cyclops.

The other part of my name — *communis* — means “common.” So you see my whole name taken together means “the common Cyclops.”

I don't think that many people would be likely to notice me without using a microscope. I am big enough so that I can just be seen without that, but still I am so very little that, unless people knew exactly my shape, they would not be likely to notice me.

I heard, the other day, of a poor Cyclops that had to carry a sort of little tree on his back. This microscopic tree's name is Vorticella. I am glad that I do not have to carry anything like that, although Vorticella is not big enough to prevent a Cyclops from swimming around very freely. Still, you know, it isn't pleasant to be always obliged to carry things around when you don't want to.

There are a great number of two other kinds of "water-fleas" in this glass. One kind is called Daphnia, and the other Cypris. And there is a very queer individual living on that leaf. She is called the "Brick-maker," because, if you look through a microscope, you can see that she lives in a sort of little tower that looks as though it were made of very small bricks. This "brick-maker's" other name is *Melicerta ringens*. She makes the brick herself, and she never has to hire a lot of masons to come and pile the bricks up so as to build



THE ARBORESCENT VORTICELLA.
(Bell-shaped animalcule.)

her tower, but she does that herself, too. And she builds so well that she leaves no holes in the walls of her tower. It is perfectly constructed.

It takes her about three minutes to make a brick. Then she puts that in the right place and begins to manufacture another brick, and so on.



CYPRIS UNIFASCIATA.
(Enlarged.)

Once a woman had one of these brick-makers that had made a very high tower — so high that all that could be seen of the brick-maker was just part of her head when she put it up above her tower to get food.

The woman thought that she would try an experiment; so one day when the brick-maker had sunk far inside of her house, down almost to its floor, the woman took hold of the little tower and cut off about one third of it at the upper end. The brick-maker did not know that anything had happened, and pretty soon she began to put up her head and came up above her house. She was beginning to unfold her head, which



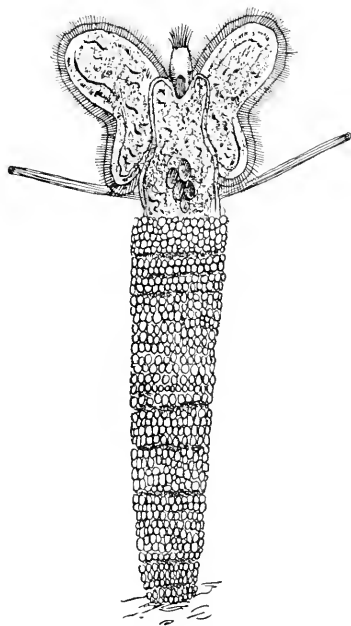
DAPHNIA PULEX.
(Enlarged.)

looks, when it is fully unrolled, a good deal like the petals of some sort of flower, when all of a sudden she noticed that the upper part of her house was gone.

Down went the poor, frightened brick-maker inside of her tower and hid for a little, perhaps wondering how such an accident had happened to her precious home. Up she came again, and back she rushed several times.

By and by, when several hours had passed, and no enemy had appeared to do her harm, the poor brick-maker recovered from her fright enough to come out and begin brick-making; for of course that broken house of hers must be mended. It would not do to live in such a spoiled home.

So Melicerta began to make bricks. When she had worked long enough to finish one brick she bent down



MELICERTA RINGENS (*greatly enlarged*).

to try and find out where she should put it. She could not seem to understand, at first, where she ought to put her brick, and she wasted some of her brick material before she could find out. But at last she understood just where the break was, and then she worked very busily and quickly. Any one looking through the microscope could tell which were the new bricks and which the old; for the new ones were of a very much lighter color than the others.

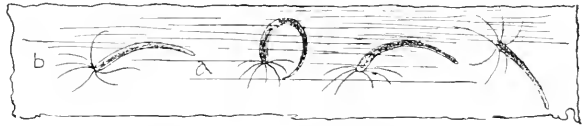
Once in a while the baby brick-makers will not want to leave their mother and go off and live in towers by themselves. I am sure I don't blame them very much. It must be lonely in a tower, even if you have made it yourself and are proud of your work. So these little ones just fasten their towers to their mamma's tower, and they all live together, though each baby has a tower of its own. But brave baby brick-makers just leave their mammas and go off and build their towers on water-weeds wherever they choose.

There is another funny-looking thing in this glass. His name is Hydra, and when he walks he humps like a "measuring-worm." I don't like him very much.

He eats things that he catches with a lot of little feelers of his. That Hydra caught a small red worm the other day and killed it.

Hydra, too, gets his name from the Greeks. They used to believe in a monster named Hydra, that had nine heads. And the Greeks had a story that one day a man named Hercules went out to fight with this monster. Hercules went at him and tried to cut off one of his heads. But, behold, as soon as one of the Hydra's heads

tumbled off, two others grew in place of that one. So the



THE HYDRÆ, OR FRESH-WATER POLYPS.

more Hercules chopped, the more heads Hydra had. But at last, Hercules, with the help of his servant, managed to burn up all the heads but one. This head could not be killed, and so Hercules buried it under a rock.

And the Hydra that is in our jelly-glass says that the reason why he received his name is that, like that old Greek Hydra, he has the power of making any part that has been cut off, grow again. If you were to cut off

any of Hydra's feelers they would grow again. If you should cut him in two lengthwise, it would not be very long before the two parts would be two perfect animals; and so there would be two Hydræ fishing for prey in this glass; and I am sure that we should not like that at all. One is enough. And if you should take Hydra and cut him into little pieces, each piece would become a real Hydra after a time. It is wonderful how much chopping up Hydra will stand.

THE MEMORIES OF A HEDGEHOG.

“Ma,” squeaked Spiney, “wake up.”

Mrs. Hedgehog stirred a little and looked at her infant. “What is the matter?” said she.

“I want you to tell us a story,” said Spiney. “You spend most all night hunting bugs, and you are too busy to talk then, so won't you talk now?”

“Yes, do, ma,” whined Prickles.

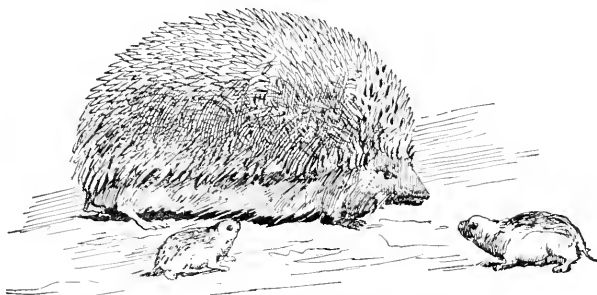
“What shall the story be about?” asked Mrs. Hedgehog.

“About when you were little like us,” said Needles.

“Oh! I can't remember as far back as that,” said Mrs. Hedgehog.

“Well, tell us the first thing that you remember,” said Spiney.

“The first?” said his mother; “I believe that the first thing that I remember about is my being put into a kitchen in a house in London.”



EUROPEAN HEDGEHOG AND LITTLE ONES.

“What did they put you there for?” asked Needles, much interested.

“They wanted me to catch cockroaches,” explained Mrs. Hedgehog. “The kitchen was overrun with them before I arrived, but I chased them till I had caught them all.”

“Were folks good to you there?” asked Spiney.

“Most of the time,” said Mrs. Hedgehog. “I thought that folks liked me very well. But I heard the

cook talking to the butcher one day. The butcher had been praising me on account of the way in which I had cleared out the cockroaches, when the cook answered, 'Yes; but the miserable thing whines so at night that we can hardly bear it.'

"Does it?" said the butcher; and then he went on to tell the cook that he had once heard that if any person wanted to be able to see as well in the night as in the day-time, all the person would have to do would be to get the eye of a hedgehog and fry it in oil, and keep the oil in a brass vessel, and such oil as that would make a person able to see at night.

"I wish I could try it," said the cook, looking at me in a very alarming manner, as if she fully believed what the butcher had said.

"Indeed, so scared was I for fear that the cook would take one of my eyes and try that experiment, that I resolved to run away.

"And so I did one night slip out to the street. I was going along, when I came to a lamp-post and heard a girl say, 'Oh! see that dear little hedgehog,' and some one caught me up. Of course I rolled into a ball

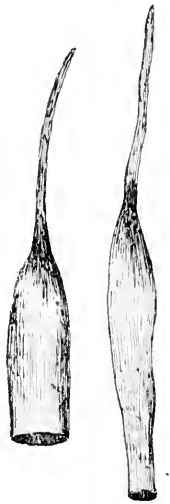
immediately, but it was of no use. The man carried me to a wagon and laid me in it, and away we went, the little girl bending down from the seat to see me.

“We drove far out into the country, and there we stopped at a house. But the people did not fasten me in securely that night, and I ran away and had a fine feast on a lot of worms and slugs that I found. I caught a toad, too. In the morning I hid in a thicket where I made myself a hole about six inches deep and lined it with leaves. I slept through the winter, and this summer I fixed this nest with moss and leaves and made such a good roof that the rain could not come through. And here one day for company I had you three children — Spiney and Prickles and Needles. You were all blind and white, and had just the beginnings of soft spines on you, instead of the hard ones you have now.”

“I’m glad you ran away,” said Prickles. “It would have been dreadful if the cook had taken out one of your eyes.”

“Ah!” said Mrs. Hedgehog mournfully, “that would only have been treating me as cruelly as many

of my folks have been treated by ignorant people. I remember having once heard a man say that hedgehogs stole the milk of such cows as lay on the meadows at night. I suppose he believed that; but I don't see how a hedgehog could do such a thing, and I'm very sure it isn't true.



SOUND-PRODUCING
QUILLS FROM
THE TAIL OF THE
PORCUPINE.

And then there have been people silly enough to believe that hedgehogs went into orchards and rolled under apple-trees till the apples stuck to the hedgehogs' spines, and then the animals would walk off with the fruit. People in old times used to take the skins of hedgehogs for hackling hemp, and I remember that I once saw a calf wearing a muzzle made out of the prickles of some poor hedgehog."

"What did the calf wear it for?" asked Spiney.

"Because folks were trying to wean the calf," said Mrs. Hedgehog.

"I'm glad that I have my eyes open at last," said Prickles. "Maybe some night I shall go abroad far enough to see such wonderful things myself."

"Yes," said his ma, "I hope so. Your American cousins, the Porcupines, have their eyes open when they are little, and are never blind like hedgehog children."

"How smart they must be," said Needles.

"Yes," said Mrs. Hedgehog, "so smart that they do not have to stay with their mothers very long. The porcupines are queer about one thing. At the end of their tails they have some strange kind of quills, and when



BRAZILIAN TREE PORCUPINE.

the porcupines are angry they rattle these together."

"Shall I ever have such a fine rattle?" asked Needles.

"No," said his mother.

"Well, then, I wish that I had been a porcupine,"

said Needles fretfully, "so that I needn't ever have been blind and could have a rattle."

"And you might be caught by Indians, too, and have all your quills taken away and used by them as ornaments," said his mother. "You had better be happy to be a little hedgehog, or 'hedge-pig,' as some folks have called us. Some of those porcupines are smart, though. One in Brazil can climb trees beautifully, and hold himself on by his long tail. And I have heard that in that country some stone porcupines have been found."

"Real stone?" asked Spiney. "Oh! I wouldnt be a porcupine for anything if I had to be turned to stone."

"You silly thing!" said his mother, and off she went to get some beetles.

A SERPENT'S SPEECH.

I know you do not like me. No one likes snakes. So I am going to stay hidden in this hole while I talk to you. Then I shall not disturb you by my looks,

and perhaps you can understand better what I say.

Even if we snakes are detested nowadays, we were thought a great deal of in old times. In a temple in old Athens in Greece, a snake used to be kept in a cage, and the people honored this serpent so much that they called it "The Guardian Spirit of the Temple;" and they thought that this snake had a soul. I am sure that I pity that poor snake. I had rather be free to wind in and out of these rocks than be shut up in a cage all my life just to be revered by people. Much good reverence does a snake.

But the Romans were just as foolish as the Greeks. The Romans thought that snakes were omens of good, and for that reason they were kept as pets in the Roman houses, where they hid about the altars of the household gods, and when visitors came in, these pet snakes would come out like cats or dogs, to beg for something to eat. But those kind of snakes were harmless, and really were of some use at first, because they caught the rats and mice. But after a time there were so many snakes in Rome that the people did not know what to do. They did not dare to kill the

holy snakes, but it is suspected that many of the fires in the city of Rome were started on purpose, by people who hoped in this way to destroy the serpents' eggs.

There was an old story told about serpents and their becoming young. The people said that Jupiter, who was a Roman god that the people believed in, was going to send a great gift to men. The gift was that of everlasting youth, and after men should receive it, none of them would ever grow old any more. Well, Jupiter, so they said, laid this gift on the back of a donkey and told him to bear it to men. So the donkey went along, but by and by he began to grow thirsty, and when he came to a fountain he wanted a drink. But a serpent was guarding the fountain and refused to let the donkey have a drink unless he would give him whatever he carried on his back. The foolish donkey was so silly that he let the serpent have the burden in exchange for the drink, and so the serpent got the gift of everlasting youth, and men never had it. This old story of course is not true, but I think that the reason why they thought that snakes had perpetual youth was that when a snake's skin gets old, every year, he changes

it, and so of course he looks new. Anyway, I don't believe that men would have been very happy if they had been allowed to be young always. There would not have been any nice old grandpapas and grand-mamas in the world then, and I am sure that would have been a great loss.

Then there was another foolish old story that they used to tell about a man named Melampus. They said that in front of Melampus' house there stood an oak-tree that had a serpents' nest in it. The servants found the old snakes and killed them, but Melampus took care of the little snakes and was kind to them. One day Melampus went to sleep under the oak-tree, and while he slept, the little snakes came out and licked his ears, and when he woke, Melampus was very much astonished, for now he could hear and understand all that the birds said when they sang to one another, and all that the creeping things said, too.

And a while after this Melampus was taken by his enemies and put into prison. While he was there, in the night-time, he heard the wood-worms talking together, and he understood that they were saying that

the roof of the prison was nearly eaten through, and that it would soon tumble in and kill Melampus and the men who had taken him prisoner. So, of course, Melampus told his enemies that they must hurry and get out of that building, and take him along, so as to save all their lives. And his enemies were so much obliged to him for warning them of the danger, that they took him out of the building before the roof fell, and rewarded and honored him for his wisdom.

Don't you think that the Greeks and Romans were queer people to believe such stories?

A CICADA'S LIFE.

I am seventeen years old. Perhaps you do not believe that, but it is true. For seventeen years I have lived in a dark place underground, and it is only during the last few days that I, with all my relatives, have been up here where you could see us. People said when they first saw us here, "The seventeen-year locusts have come."

But we are not locusts at all. We belong to a very different division of insects, and our real names are "Cicadas," or "Harvest Flies." We have not come to eat all the green things in the country, the way locusts do. If you look at us, you will see that we have no jaws for eating leaves; we have only beaks through which we can draw up sweet liquids. I heard of a woman who kept a cicada by giving it a sponge filled with sugar and water. One spongeful would last the cicada a week.



SEVENTEEN YEAR CICADA.

But I started to tell you about our seventeen years underground. You see, when we cicadas were hatched, we were only one sixteenth of an inch long; not half as long as a big ant. I had six legs, and my front ones were very large for my size, and they were shaped so that they looked almost like lobsters' claws. I did not have any wings then, but I had a beak for sucking juice, as I have now.

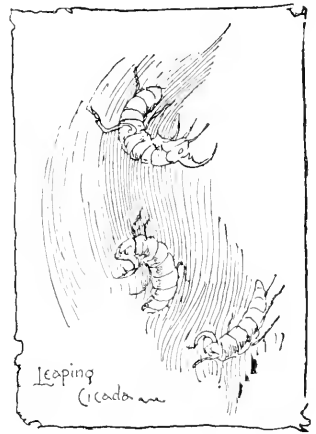
Well, where do you suppose we cicada babies found ourselves at first? Why, we were away up on top of an oak-tree. And we knew that we must get down to

the ground some way, because in the ground we were to live for seventeen long years. So how do you suppose we came down? We did not take the trouble to crawl away down the tree. That is not the way small cicadas do. We had no wings to fly down with, so all we did was just to run to the end of a branch and jump straight off into the air. Don't you think we were pretty brave for such little things as we were? How would you like to take a jump from the top of a high oak-tree? We had no idea how far it was to the ground, but we came down all right, for we were so small that the fall did not hurt us a bit, and we fell like so many feathers.

As soon as we were on the ground we began to dig. That was what our broad fore-feet were for, to be used as shovels in digging our way into the earth. After we had burrowed in the ground far enough, we each caught hold of a root and began to draw through our beaks the nice juice. You see, we had no mother to take care of us and feed us. Our mamma had died before we were hatched, as all cicada mammas do, and so we had to look out for ourselves.

And for seventeen long, delightful years we sucked juice from plants, and slept, and woke, and grew. If I had belonged to another kind of cicada, I should have had to stay only thirteen years in the ground; but I was the seventeen-year kind. There is one variety that has to stay only one year in the ground.

Well, you see, there is not very much to be told about those years underground. It was just the same thing all the while. But the seventeen years came almost to an end after a time, and on our backs the wing cases began to swell, and we commenced to cut holes up toward the surface of the ground. We did not want to come out just then, but we were trying to see how it seemed. We stayed for several days up within six or eight inches of the surface of the ground.



On pleasant days we went up to the tops of our holes and looked out at the world, but when it rained we would rush back inside.

“I don't think that the world is very pretty,” said brother Pupa, one day, when it rained. “I don't want to go and live in the trees.”

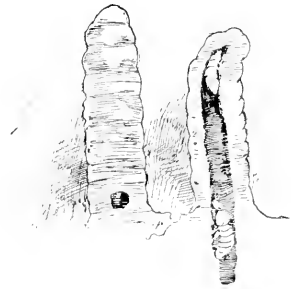
But a few nights after this Pupa changed his mind. So did all of us. We crawled out in the dark of a June night, for we did not want any birds seeing us and snapping us up, or any ants attacking us. We looked a good deal like beetles crawling along.

For several nights many of us rose from the earth. There must have been hundreds and hundreds of us. And then we climbed the trees around us and began to take off our skins. It was pretty hard work, for our skins were tough, but at last we managed to split holes in our backs and pull ourselves out head-first. Then we were almost through with our work of becoming cicadas. Our wings were weak yet, and we could not fly, but in a short time our wings stretched out and we were all right. We were finished. Our seventeen years had come to an end.

I heard of some cicadas, a little way from here, that thought they were going to be drowned in that rain, the other day. They had not come out of their holes,

and the water ran in on them, so these cicadas went to work and built domes above the surface of the ground, and in these domes they hid so that the water could not reach them.

Now you can hear the sound of our drums go whirring through the woods. Some of us make that loud noise by means of queer things that look like kettle-drums, which some of us wear on each side of our bodies. The French call us "chanteuses," or "singers," from the noises we make, but really the sounds do not seem much like singing. I have heard that there are cicadas



CICADA TOWERS.

in other countries that make queerer noises still. There is a kind in the southern part of Asia that makes a noise like a scissors-grinder. A man who had never before heard the scissors-grinder was approaching an island in a boat, and he afterward said that for at least a quarter of an hour before he reached that island he could hear the "whir-r-r, whir-r-r," of the scissors-grinder echoing through the forest. After making a tremen-

dous noise for some time, the cicada stopped with a "whiz-z-z," just like the sound of a scissors-grinder's wheel when the treadle stops.

And in South America, on the river Amazon, there is a queerer kind of cicada; a big insect that begins its song by making a jarring sound like any cicada, but the sound becomes shriller and shriller till it ends with a long, loud whistle that sounds like the whistle of a steam-engine. Half a dozen of such steam-whistle cicadas would be about as many as one would want to have around at one time, I should think. One common kind of South American cicada is very pretty, for it has wings marked with patches of bright green and red.

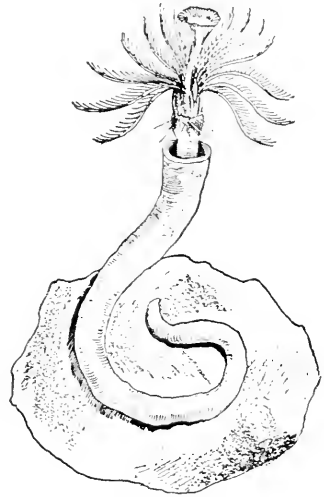
But, however loudly we may whirr, we are not hurtful to people, as some folks think. You know some say that we sting people so severely that they sometimes die. But there is not a word of truth in that story. We cannot hurt people, for we have nothing to hurt them with.

A RIDDLE AND ITS ANSWER.

I am going to give you a riddle, and I don't believe you can answer it. The riddle is this: What animal lives in a sort of bottle made by itself, and has a kind of cork that it corks itself in with?

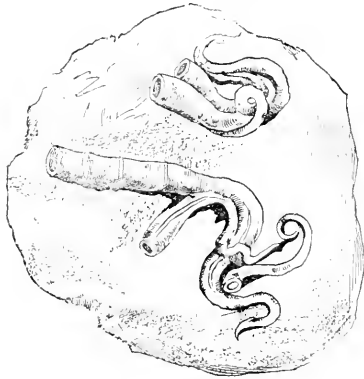
There! I thought you didn't know. Well, I suppose that I'll have to tell you, then. It is I, and my other name is *Serpula*. To think that I've been corking myself in all my life, and yet you never knew it!

My ma and my grandma and all my folks have had stoppers to cork themselves in with. These stoppers always fit our tube exactly, and often the stoppers are of beautiful colors. I made this little tube that I live in. Maybe you have found broken pieces of such tubes down by the sea-shore. But you probably have not



SERPULA CONTORTRYLICATA.

found pieces of the tubes that some of my folks make out of sand, because those tubes are very easily broken. Some of our tubes are horny, some are made out of lime, and others are of sand.

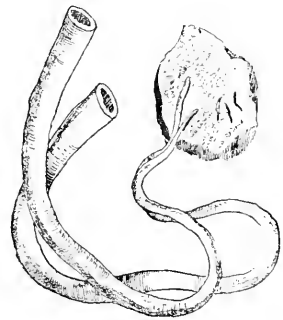


SERPULA TUBULARIA.

Some of us have our tubes where they can be seen covered with water, and others bury their tubes in the mud and have only the tops of the tubes above the surface. Sometimes quite a number of worms

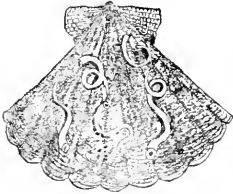
will build tubes on the same stone.

Some of the children of my relatives do not live in tubes, but crawl along the bottom of the water, and some kind can swim. And over in Scotland I have a very queer relative that makes a web, instead of a tube, to live in. This Scotch cousin makes its web of the very thinnest threads—thinner than spiders' threads — so very thin that you can hardly



SERPULA TUBULARIA.

see them. Then there is another kind that is called the Fan Sabella, and these relatives of mine are about as thick as a quill, and stand up straight. A man who once saw thousands of these growing in a river said that they looked like a field of corn.



SERPULA SPIRALIS.

Only you know, of course, that such corn would not be very tall.

A CHIPMUNK'S CHATTERINGS.

If I were not sure that you are a kind little girl, I would not come so near you. I am pretty sure that I should hide where your brother could not see one of the stripes on my back, if I knew that he were anywhere around here. Do you know the Indian story about the way that squirrels first came to have stripes on their backs? Well, if you were a little Indian, living on Vancouver's Island, perhaps your grandmother might tell you this story about

SERPULA
TUBULARIA.

the squirrels. Once, long ago, the Indians say, there lived in the North an old woman who caught children and killed them. This wicked old woman had made many a home sad by taking away the little ones, and many mothers had wept for the little boys and girls that they never should see again.

But, after a time, the old woman stole the little child of a mother who could not bear the thought of his being killed. So, in her sorrow, she cried out to the Great Spirit in the sky that he would save her little boy.

“Save him in any shape,” prayed the poor mother, “in any shape, only save his life,” and, lo! her prayer was answered, for, while the wicked woman who had stolen the boy still held him, suddenly under her fingers his brown Indian skin changed to fur, his shape altered, and, though she tried to hold him, yet he slipped from her hands and ran away, no longer a little boy, but the liveliest, merriest squirrel that ever lived. But on his back were the dark lines where the cruel fingers of the old woman had clawed into his skin as he was slipping away from her. And many a squirrel to this day wears those same dark lines on his

back that were made by the old woman on the squirrel that was once a little boy.

What's that? You don't believe that story? Well, maybe you might believe it if you were an Indian girl and your grandma had told you it. And I am glad that those Indians believe that story enough to make them afraid to kill squirrels.

The Vancouver Indians say that whoever kills a squirrel will have bad luck. I wish all white children had as much sense as those Indians have.



STRIPED SQUIRREL.

Almost as strange stories as this are told by some nations about my relatives, the Hares. The Hottentots say that the moon once sent the hare to this world to tell men that as the moon died away and rose again, so should men die and afterward live again. But the foolish hare, on his way down to the earth, forgot what he was to say, and so when he came to men he cried out far and wide over the earth the sad news that,

though the moon always came again after she died, yet men should die body and soul. Then the hare, having, as he thought, delivered his message correctly, went back to the moon. The moon asked him what he had said to men, and the hare repeated his message.

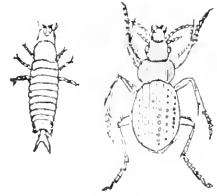
But the moon was terribly angry to think that the hare should have told such an untrue thing on the earth, and she picked up an axe in her anger and aimed a blow at the hare, intending to kill him. But the axe merely struck the lip of the hare and cut it open, and the hare, made angry by the pain, flew at the moon and scratched her face so that all who look may see on the moon to this day the marks of those scratches.

But I think myself that it is a very good thing that men do not have to depend on animals for learning what will become of people after death.

A VOICE FROM A HOLE IN THE GROUND.

Don't look down here. I don't want any one coming to look down my little hole unless it is an insect

that will tumble in here for my dinner. I am going to be a ground-beetle some day—one of the kind called *Calosoma*—and I must eat all I can, so as to grow. When I am a fine ground-beetle I shall eat, too. My folks catch June bugs and kill them. And another relative of mine does good, for he eats potato-beetles. Another of my relatives, that has bright green wings, will go up trees to catch canker-worms, and another kind does ever so



“I AM GOING TO BE A
GROUND-BEETLE.”

much good in eating those dreadful cut-worms that plague vegetable-raisers so.



CARABUS
ADONIS.

You cannot see how I look while I am in this little hole, can you? Well, I am long and black, and have thirteen divisions to me, and six legs, and two horny hooks and a kind of false leg at the end of my body. I know you think that I am homely in shape, but my markings are pretty, and I shall make a fine beetle. Some of the perfect beetles among my folks are real pretty. There is one called *Carabus Adonis*, that is found only on a mountain in

Greece, called Mount Olympus; and that beetle is a rich violet color, with golden borders to his wing-cases.

I have some cousins in Japan, too. Their name is Damaster, but the Japanese call them the "Fiddle-Beetles," because they are something the shape of a fiddle.



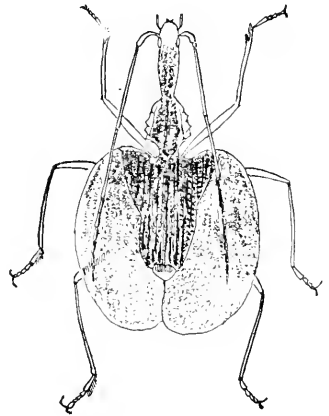
DAMASTER
BLAPTOIDAS.

But my relatives have been found in queerer places than Japan. Some of the smallest of us "Carabidæ," as people call our family, have been found under great bowlders that were hidden many feet deep in the ground, and the men who raised the bowlders had to take crowbars and use a great deal of strength to get the stones up. How do you suppose that my relatives ever came under such big bowlders? I should not want to crawl under such places. All I care for is just a little hole in the sod. I should be afraid that I never could catch an ant or any other insect, if I lived so deep in the ground as that.

Some of my folks are brave and fire guns. I suppose that you do not believe that a beetle could do

that, but I do not mean real guns; only a kind of beetle-gun that does not send out shot, but a little cloud of smoke. Some of my English relatives do that. These beetles live under stones, and when an insect or a person tries to catch one of these "Artillery-beetles," as they are called, puff! goes the little gun. Sometimes if a person is holding one of these beetles in his hand when the gun goes off he can hear a little sound, but the English beetles cannot fire their guns with much noise.

There are some other "Artillery Beetles," or "Bombardier Beetles," in South America, that fire quite loudly, their sort of beetle-cannons. Sometimes a South American beetle will fire his cannon several times, and a person's fingers will really feel burning, and will be stained



MORMOLYCE PHYLLODES.

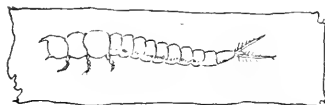
brown whenever the smoke from the beetle's cannon has touched them. That is a fine way of defending one's self, and I presume that if I had a gun I could scare

people and insects, too. But I shall never have a gun of my own. But I hope that I shall be able to run fast enough so that I shall not need a gun. Most of my folks can run very well.

But the very queerest relatives that I have are some living in the Malayan peninsula. Those beetles are monsters in shape, with big wings, and their name is *Mormolyce phyllodes*. They cling to the trunks of trees that have been blown down by storms. One may find these flat beetles on the under side of the trunks near the ground.

I have some poor relatives that I am sure you will be sorry for. They live in Mammoth Cave, and they have no eyes. And if you look on the golden-rod in August or September you may find some bright-colored relatives of mine. In the spring there are numbers of us under stones. Most of us eat animal matter, but there are some dark relatives of ours in France and Germany that I am sorry to say do harm by eating grain. They are found in wheat-fields. But some of us Carabidæ are almost everywhere. There are some of us in Arctic countries and some in the warm

countries of the earth, and others are found up to the snow-line on mountains. Others live on sea-beaches and catch the beach-fleas and eat them. And in warm countries a great many Carabidæ live on trees. Many of these tree-beetles are quite beautifully colored and marked. There are a good many red-spotted kinds of Carabidæ in Africa, and in Australia I have some tremendous relatives, as much as two inches and a half long.



LARVA OF A GROUND-BEETLE.

I suppose you are tired of my talk, but there is one thing that

I want to say before you go. Don't you mix us larvæ up with the larvæ of the "Tiger Beetles." I'm not a tiger beetle, and I never shall be one, but you will find the larvæ of tiger beetles in holes in the ground. They are very homely, for they have heads with long jaws, and they are humpbacked. They often make their holes in sandy banks and lie there in wait for insects, just as I do.

WHY CATS WEAR WHISKERS.

Do you know why the Pussies were whiskers, my dear?
If you don't, then just listen a while and you'll hear
A most wonderful tale. In the days long ago
When the Pussies could talk just as we can, you know,
And the fairies still lived, there were sixteen sweet kits
Named respectively, Spot, Jumper, Stripey and Spitz,
Blacky, Long-paws, and Scamper, the oldest of all.
(The nine names of the others I scarce can recall.)
And these sixteen fine kitties all lived with their ma
In the depth of a wood, so secluded and far
From most other live creatures, you'd surely have thought
They might all have behaved themselves just as they ought,
For they'd no one to teach them the least naughty thing.
Least of all could these kits be expected to bring
On the cats of all time such a mark of disgrace
As the whiskers that nowadays dot each cat's face.

Now the sage Mrs. Sharp-eyes (the ma had this name)
Had declared that she thought that all kits were to blame
Who did not every day wash their faces real clean
And at least try to keep their paws fit to be seen.
But each one of the kittens, most sad to relate,
Hated nothing so much as to wash paws and pate.

Now it chanced Mrs. Sharp-eyes, one day in the wood,
Heard a neighbor was sick, and, as she was quite good
About visiting any that were in distress,

She assembled her kittens, gave each a caress,
 And then said, "Now, my dears, I must go far away
 To relieve a loved friend who is aged and gray:
 She is sick and uncared for: I fear she may die
 All alone in the forest with no neighbor nigh.
 As a present I'll take a delicious field-mouse,
 And I'll leave you, my children, alone, to keep house.
 And so now, darling kittens, be good while I'm gone,
 I will surely be back by the third rising morn."

All the pussy-cats waved their front paws in adieu,
 And the youngest kit, Jumper,
 began to boo-hoo.
 But they all soon began to be
 merry once more,
 And played "Puss-in-the-corner"
 the same as before,
 And next followed "Cat's-cradle,"
 and then they all sang
 Of "The cat and the fiddle,"
 until the woods rang.



GOING TO HER FRIEND'S.

Of the "Puss who wore Boots" they next talked quite a time,
 Afterwards they recited the wonderful rhyme
 That relates how some heedless, unfortunate kits
 One sad day long ago, lost their nice little mitts.

But soon Scamper grew tired and said, "Now, see here,
 Let us visit the fairies while ma is not near.
 I am going, for one, to their rock right away,
 To find out what they have for their dinner to-day."

But the kittens at this all drew back in affright.
 "No, indeed" they all cried, "for you know 'tisn't right.

Mamma always has told us we never must steal,
And perhaps you'd get caught; then just think how you'd feel."

"You're afraid," Scamper sneered, and she scolded and teased
Till she made all the kittens do just as she pleased,



HELPING HERSELF.

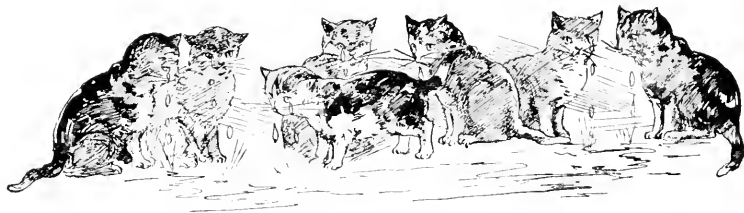
And in one long procession the
sixteen kits went
To the fairies' big rock, on most
sad mischief bent.
Naughty Scamper peeped round
at the rock's farther side,
Where the door of the wee dining-
room opened wide,

And saw there a long table all covered with food;
There was meat and fresh milk and all things that are good.
And yet none of the fairies were anywhere round.
Hungry Scamper sprang in at the door at a bound,
And the other kits followed, and everything ate
Until all there was left was each cat's empty plate.

But soon they heard a noise, and so timid were they
That they jumped from the table and ran fast away.
In the depths of the wood, underneath the pine-trees,
They all finally, stopped, feeling more at their ease
Since they'd traveled so far from the ones they had robbed,
And, besides, they were sleepy; their heads fairly bobbed
And their eyes could be hardly held open. "Let's rest
In this place for a while," Jumper said, "I detest
Walking round when I'm sleepy." The rest said so, too,
And sat down. "I suppose what we all ought to do,"
Blacky said, "is to wash off our faces and paws."
"No, indeed," the rest said, "we sha'n't mind such strict laws."

So, beneath the tall pines all the kitty-cats slept,
 With their faces so dirty their ma would have wept
 At the sight if she'd seen it; but folks who don't mind
 Shall be punished, as these naughty cats were to find.
 Scamper found it out first; she awoke, the next day,
 Feeling queerly and stiff round her mouth, in some way.
 And she found, upon putting her paw on the place,
 Some pine-needles were stuck in the grease on her face.

"Did I ever!" she said, and, upraising her paw,
 Gave the needles a brush, but, by some fairy law,
 All her efforts but sent the stiff things farther in,
 Till at last they just seemed to be part of her skin.
 Scamper sobbed with the pain, until, roused by her cries,
 All the rest of the kitty-cats opened their eyes,
 And full soon they all found their mouths fixed just the same,
 Which fact covered them over with anger and shame.



OBJECTS OF SYMPATHY.

And the tears, big and salt, pattered dolefully down,
 As said Jumper, remembering his ma's awful frown,
 "Oh! what do you suppose Mamma Sharp-eyes will say
 When she sees us all looking in this dreadful way?"

On their journey toward home all the kits wept aloud,
 And with sobs quite heart-breaking, they solemnly vowed

That they never again would run off anywhere,
When their mamma had strictly said, "Do not go there."

Mamma Sharp-eyes had finished her visit so kind
And was coming toward home, when the noises combined
Of the wailing and weeping of kits struck her ear,
And the sound filled her heart with prophetic fear.
"What can ail those poor children? They must be in need."
And she ran on toward home at the top of her speed.



"NO, I CANNOT RELIEVE YOUR BAD CHILDREN," SAID SHE.

What a sight met her eyes as she opened the door!
And her ears were quite stunned by the dreadful uproar.
"Why, whatever has made in your looks such a change,
And how comes it you all are so bristly and strange?"
Mamma Sharp-eyes exclaimed. "Oh! they hurt," blubbered Spitz.
Scamper howled as though almost scared out of her wits.
"Just let me pull them out," mamma said; but "No, no,
It will only hurt worse," shrieked the kits in their woe.

“Then I’ll go to the good fairy queen right away,”
Mamma Sharp-eyes announced, “and see what she will say ;
It may be I can learn how to loosen these things.”
Then she ran toward the rock as if she had had wings.
The wee queen of the fairies was perched on a flower,
And appealing at once to her magical power,
Mamma Sharp-eyes described how the pine-needles clung,
And for help begged with all of her eloquent tongue.
But the fairy-queen shook her small head solemnly.
“No, I cannot relieve your bad children,” said she ;
“You may tell them, however, if they will be good,
And will each wash his face every day, as cats should,
By and by the pine-needles will not bristle out,
But grow soft and less troublesome, there is no doubt.”

As this comfort was all Mamma Sharp-eyes could gain,
She went back to her children, to tell them with pain
Of their doom. But the kittens through trouble grew wise,
And, from being the laziest kits of their size,
They became the most neat ; washed their faces and paws,
And were very obedient to their ma’s laws.
But the dreadful pine-needles did not fall away,
And all those cats’ descendants wear whiskers to-day.

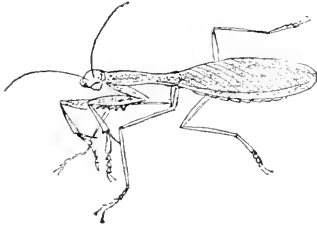
This Pamphlet called forth the following letter :

DEAR LOOK-ABOUT FOLKS :

Mis’ Surface came to see us yesterday. She’s always coming to see mamma. Bert went to the door, and I knew who’d come, ’cause I heard her talking. I didn’t want to see Mis’ Surface a bit, ’cause I was afraid I’d have to sing. Mis’ Surface ’most always makes me sing “I want to be an angel,” when she comes. I can play it on the melodeon, and sing it, too. My

mamma taught me how, but I hate to play it to folks, and I knew I'd have to if I stayed, and so I ran out the back door and went to the barn.

Bert and I have a real nice place in the barn. Nobody knows anything about it, 'cepting just us. It's a place away down under some bales of hay. You can't see it at all from anywhere outside, but you go to the top of the



AMERICAN MANTIS.

pile and there's a hole in the hay just big enough for me to get in, and the hole goes sliding away down, down, down, until you come to a kind of little room right between two bales, where there's a place just big enough for Bert and me to sit together and look out a big crack in the boards. 'Most every day Aunt 'Cindy or somebody says, "I don't see how you children do get your faces so scratched

up." but Bert and I never tell. Of course the hay scratches when we're sliding down that hole, but I don't care for that, and neither does Bert. It's kind of hard work getting out of the hole, though, sometimes.

Well, I knew Mis' Surface couldn't find me in that hole, so I went and slid down there. But I hadn't been there but a few minutes when I heard papa drive into the barn, and in a minute he went to the barn door and called, "Alice!" And so, of course, I had to climb right up my hole, and papa was awfully 'stonished when he saw me with hay in my hair, and he told me he had a little book for me, and so he pulled out that Pamphlet you sent. And I sat down on the hay and read it till Mis' Surface was gone. I think it's real nice, and your Ranatra's real queer.

Papa found something the other day that I think is just about as funny as your Ranatra. Papa was walking along by our fence, and there, in the sun, sat just the queerest-looking thing! Papa put his handkerchief over it and brought it to the house and showed it to me. He said it was a Mantis, and it's sitting on the kitchen window now.

You just ought to see it catch flies. It will wait till it sees a fly sitting not very far away, and then it will begin to move toward the fly. The mantis

moves so slowly that you can hardly see it move at all, but, just as it reaches the fly, it will give a sudden jump and catch the fly with those two queer fore-legs, and then go to eating. The mantis has never missed any fly that I've seen yet. Every bit of a fly is eaten excepting the wings and legs. If the mantis makes a mistake and gets a piece of a wing or leg into its mouth, it always pulls the piece out again.

Papa told me some funny things about the mantis. He said that he was reading a book a while ago, and it said that in Java there is a kind of pink mantis that, when it sits still, looks just like a pink orchis-flower. And papa said that this mantis likes to eat butterflies, and he thinks that the butterflies suppose that the mantis is really a flower, and so they come near it and are caught. And papa showed me something in a book that I'll copy for you. He said it was written by a man about two hundred years ago. He was writing about the mantis, and he said: "This little creature is considered of so divine a nature that to a child who asks it its way, it points it out by stretching out one of its legs, and rarely or never makes a mistake."

Don't you think that's funny? I wonder if ever any little girl was really lost and asked a mantis to please show her the way back home again. And papa said that he heard once about a woman who kept a mantis to catch mosquitoes so they wouldn't bite her, but he don't know whether that's a true story or not. Anyway, when papa lived in the South, he used to see the Carolina mantis and find its eggs on twigs of trees sometimes. He drew me a picture of the eggs and I'll draw it over for you and send it in this letter. I guess you'll think they are funny-looking: as queer as the insect that made them.

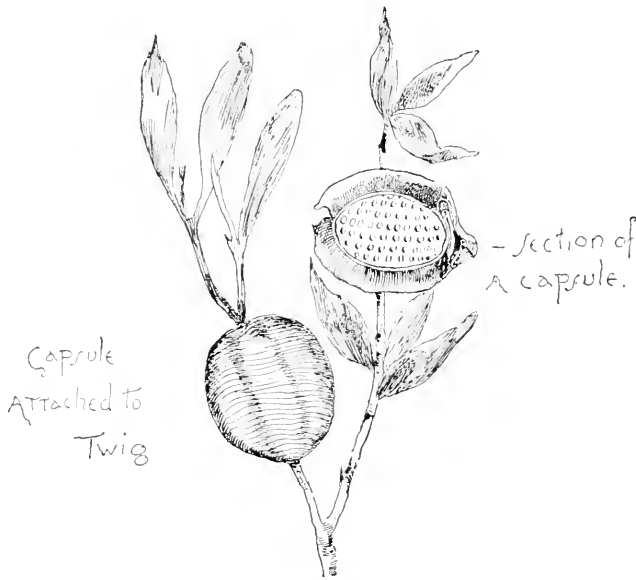
Good-by! I'm real much obliged for the book you sent me.



EGGS OF MANTIS
CAROLINA.

ALICE.

“Those are queer-looking eggs — very,” remarked Blanche, as she looked at the picture that came in Alice’s letter. “Isn’t it strange; we know just about



what shape any kind of a bird’s egg will be, but insect-eggs seem to be all sorts of shapes.”

“Yes,” said Aunt Nan, “some insect-eggs are

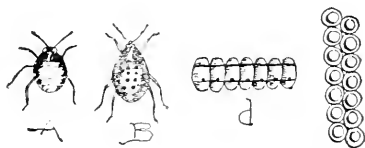
so beautiful that the late English naturalist, Mr. Wood, says that he thinks they would be exquisite models for jugs and vases. And he says that once he was lecturing on the transformations of insects and he showed a drawing of an insect’s egg, and, after the lecture, a porcelain manufacturer who happened to be in the audience came to him and begged a copy of the

drawing. Mr. Wood gave it to him, and he went home and made a number of jars in exact imitation of the egg."

"I found a picture of some queer eggs the other day," said Al. "They were those of the Harlequin Cabbage-bug, or "Calico back," as some people call it, and the eggs look just like little white barrels with black hoops around them, and each barrel has a little black spot in just the right place for the bung-hole of the barrel."

"And, when they hatch, do the larvæ come out of bung-holes?" asked Aunt Nan.

"No," said Al, "the larvæ cut out the heads of the barrels and come out that way; and the book I read it in said that the heads of the barrels are cut out with the utmost neatness and precision."



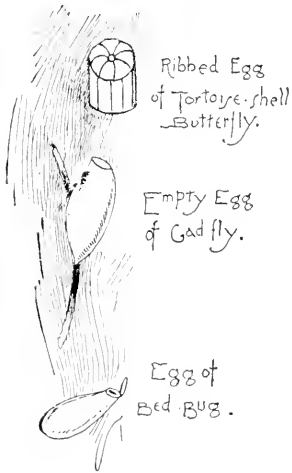
BARREL-EGGS OF THE HARLEQUIN
CABBAGE-BUG.

"But what do the larvæ cut out the heads of the barrels with?" asked Kittie.

"With their beaks," said Al. "If the weather is favorable, the barrels stay whole only three days, for

the larvæ will hatch and cut their way out by that time."

Aunt Nan had found Wood's "Common Objects of the Microscope," and was turning over the leaves.

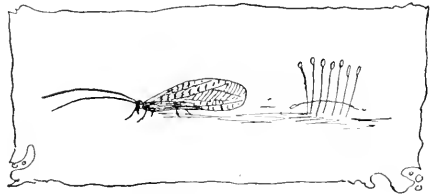


"There!" said she, "that is what I was looking for," and she held up a picture. "Here is the ribbed egg of the common Tortoise-shell butterfly, and this cornucopia is the egg of the gad-fly as it appears when fastened to the hair of a horse; and this egg that has such a cunning little lid, is that of the much-abhorred bed-bug."

"Wouldn't it be nice to have a collection of different kinds of insect-eggs?" said Kittie. "I believe I'll start one."

"I'm afraid you will have all your trouble for nothing," said Aunt Nan, in rather a discouraging tone.

"Why?" asked Kittie.



CHRYSOPA OCLATA AND EGGS.

“Because insect-eggs will not keep their shape. Even if they do not hatch, they are almost sure to collapse after a while and lose their beautiful forms. A collection would be very fine if it were not for that; for there are so many different shapes that if a good entomologist sees an egg he can be pretty sure of guessing correctly the very insect that laid it. Sometimes insect-eggs have stalks to them and stand up as though they were growing. The Lace-winged Fly, *Chrysopa*, which is its scientific name, has such eggs. *Chrysopa* is a very useful creature, for her larvæ kill the plant-lice that do so much harm. On account of this the larvæ are called “Aphis-lions.” The eggs are often placed near a group of the aphides, and so the larvæ find their dinner all ready as soon as they are hatched. In Europe, the gardeners hunt for the Aphis-lions, and put them on fruit-trees, and the larvæ soon rid the fruit-trees of the pests that injure them. *Chrysopa* herself has delicate wings and is often green, with yellow eyes.”

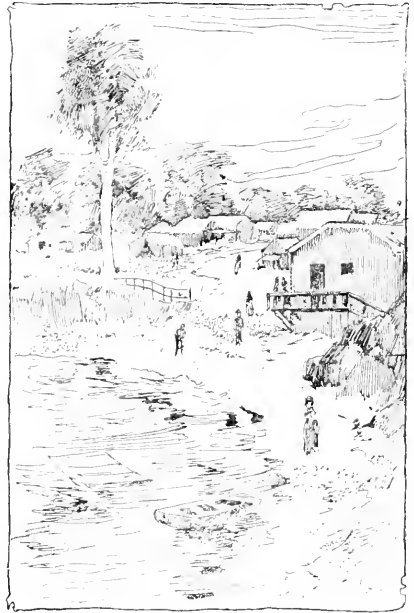
CHAPTER V.

ON THE SEA-BEACH.

ONE day in June, Alice took a journey to a town called Monterey. Alice's father and mother and Uncle Frank were all Chautauquans, and they were going to attend the summer meeting of that society which, in California, is always held near the old Spanish town of Monterey. Alice took her note-book with her, and determined that she would jot down all the new things she might find out in natural history, for she very much wished to write to the Eastern members of the Look-About Club an account of her visit. She wished all the more to do this because the brook, where she had been dredging during the spring months, had now shown decided signs of becoming dry, and she knew she should not be able to find many more fresh-water insects.

The long ride south on the train came to an end at

last, and they all climbed into omnibuses and were driven away through the winding streets of the old town toward the woods, for the Chautauqua Assembly meets farther on, in a place called Pacific Grove. On the way Alice sat and looked at the beautiful blue bay, stretching in a wide half-moon, and caught glimpses of the whitest sand-beaches that she had ever seen. At one point were a few huts which represented a little whaling-station where whales were brought ashore in the winter-time.



A VIEW IN PACIFIC GROVE.

“May we go there some day, Uncle?” asked Alice, charmed with the prospect.

“If you go there once you won’t want to go again,” said Uncle Frank.

“Why?” asked Alice.

“Your nose will tell you why, if you ever go near

there," said her uncle; but Alice looked back at the blackened whaling-station as if she intended going, anyway.

But the whaling-station passed out of sight, and a Chinese fishing-village, with huts and blue-bloused people, came in view; and then the woods closed in, and before Alice had time to observe many more things, she found the coach stopping, and she and her folks were at Pacific Grove. There were hosts of white tents and little cottages scattered among the pines, and soon Alice's folks had chosen a little house of four rooms, that seemed to Alice much like a play-house.

She went around looking at the furniture, until she came to the kitchen, and there she stopped short, gazing at one thing; it was a match-safe; at least matches were in it, but Alice was sure she had never seen such a match-safe before.

"What is that?" asked she of the woman who had rented the house to them.

"Why, it's a barnacle," answered the woman.

"But — why, it's dreadfully big," said Alice. "I never saw any like that. All the barnacles that I ever

saw were little bits of things. I've found them on rocks."

"I found that on a rock, too," said the woman, smiling; "and I have some more big barnacles over in my shell-store. You must come over and see them. I have whale-barnacles, too; some I picked off of whales myself, down at the whaling-station, last winter."

"Whale-barnacles?" asked Alice. "What are they?"

"Why, they're a different kind of barnacle, that sticks on whales," said the woman, whose name was Mrs. Evans. "They bother the whales dreadfully, too."

"How big are the whale-barnacles?" asked Alice.

"Nearly as big as this rock-barnacle; not quite," said Mrs. Evans.

And Alice rushed off after a tape-measure, and came back to get the dimensions of the big match-safe. First she measured the distance around it on the outside, and she found that in the largest part it was just twelve inches. It was a little more than four inches high, and, in the widest part underneath, it was three and a half inches. On the top of this queer match-safe was a cap of sea-moss and bits of white coral.

Pretty soon Alice opened the back door and walked out on the little stoop. Half a dozen blue jays were darting about in the pines overhead, scolding as loudly

as they could. Alice was looking at them, wondering what the quarrel was about, when she heard some one say, "Halloo!"

Alice looked all around, but saw no one.

"Halloo!" said the voice again, and a yellow head

peeped over the lath-fence that separated Alice's yard from the next one.

"Who are you?" asked Alice.

"I'm Wobbie," said the yellow head, as he began to climb the fence. "Say, don't you like our house? 'Tisn't very big. At home we have a bigger house. It has upstairs, downstairs, and bastings."

"And what?" said Alice.

"Bastings," responded Robbie. "Don't you know — where you go downstairs in the dark?"



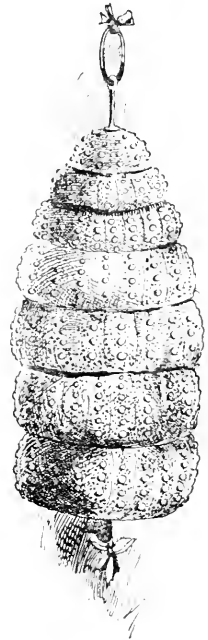
"I'M WOBBLIE!"

“Basement, I guess you mean,” said Alice; but Robbie was not to be corrected.

Just then, “How do?” came from the other side of the house, and Alice looked up to see a Chinaman with two baskets.

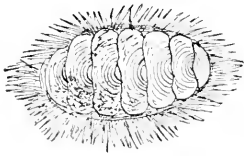
“Buy shell?” continued he. And he held up a little string of seven small sea-urchins, one above another. Their prickles had been taken off, and the purplish-brown shells remained.

Alice called her mother, and the whole family came to investigate Ah Wo's baskets. He had huge abalone-shells in plenty; “Ear-shells,” as they are sometimes called; *Haliotis*, as is their scientific name. They glittered inside with beautiful shades of green and silver and red, and many of the abalones had fronds of sea-weed hanging from the outside of the shells. In one basket was the big white lump of meat that constitutes the abalone itself and that is eaten by Chinamen.



SEA-URCHINS.

Hanging on with one hand to his father's blouse was a little Chinese boy, wearing a pink calico apron. This apron had a big pocket, not on the side, as in American aprons, but under his chin, covering his little chest. This pocket was stuffed with



CHITON SPINOSUS.
(Enlarged.)

some sort of contents, and he peeped around from behind his father, and, drawing something out of his pocket, held it toward Alice. It was a very

little abalone, not more than an inch across.

Alice took it and gave the little fellow five cents, which he received with great satisfaction.

“What is your name?” asked Alice, but the little Chinaman refused to answer, and hid himself behind his father, satisfied that his part of the transaction was done.

“He name Yat,” said his father, as he raised the two baskets by a pole and slung them over his right shoulder.

“Good-by, Yat. Come and see me again,” called Alice, but Yat rushed away, his little pig-tail streaming in the wind.

One day Alice bethought herself of her promise to go and see Mrs. Evans' shell-shop. She found that lady in, showing her shells to a customer.

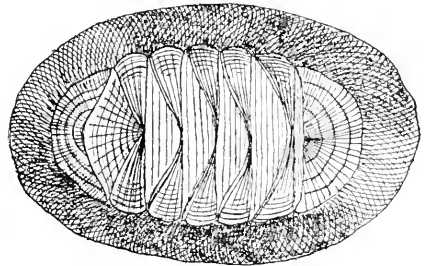
"Those are sea-cradles," said she, in answer to a question from the customer; "some folks call them Chitons."

The shells did look something like little cradles, green inside.

"They're made up of parts, you see," said Mrs. Evans, "and in one kind of chiton, the parts are shaped like butterflies. See," and she held up a number of pieces of a chiton-shell. They were almost like a butterfly in shape, and Alice asked her why she had taken a chiton to pieces that way.

"I didn't take one to pieces," said Mrs. Evans. "I found these 'Butterfly-shells' on the rocks. Folks like to buy them, and they paint butterflies on them."

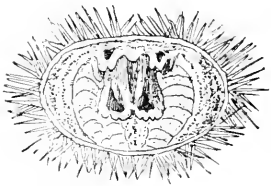
But it was not till Alice had returned home and



CHITON MAGNIFICUS.

(Enlarged.)

hunted up a picture and a description of a chiton that she really knew what a live creature of that kind is; that it is related to the limpets, has eight pieces to its shell, and can roll itself up into a ball, which is a very



MASTICATING APPARATUS OF
SEA-URCHIN.

queer thing for any creature having a shell to do. And she found out, too, that the word Chiton comes from a Greek word meaning “a shield;” and the creature has this name because the shape of its shell

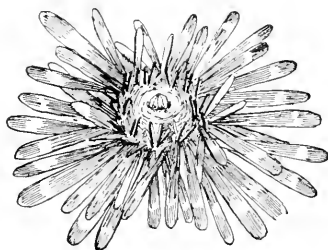
is like a shield. And many of these chitons, when they are alive, have spines. Those chitons in the Northern seas are small, but those around the equator are quite large, comparatively. Chitons have no eyes, and the one from which the so-called “Butterfly-shells” comes is the Giant Chiton: *Cryptochiton Stelleri*.

Once in a while the body of this large chiton is found; but more often separate valves of its shell are washed ashore, and are found and called Butterfly-shells. These white butterflies are not seen when one looks at an entire chiton, because they are wholly covered by a reddish-brown mantle.

Then Mrs. Evans showed Alice the whale-barnacles, as she had promised. They were not so large as the rock-barnacle in Alice's kitchen, but they were large enough to have been great torments to the poor whale on which they resided.

On the shelves were numbers of big white key-hole limpets with the hole in the middle of them, waiting for that key that never comes. But some of the most delicate shells that Alice took a fancy to were brought, so the woman said, from the kelp outside the rocks, beyond the low-water mark.

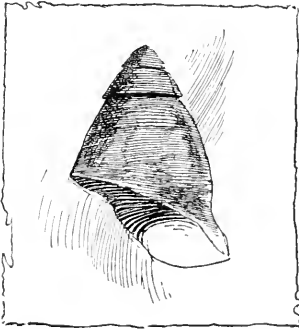
“Folks call them Top-Shells,” said Mrs. Evans; “and the reason they live outside the rocks is that, if they didn't, they'd be smashed to pieces in the storms. They have to live where there's nothing hard to hit against, and the kelp makes a mighty good home for them. But then, so far as I've noticed, the Lord always fixes things so that the humbler critters are comfortable. It's only us human folks that's invented grumbling.”



ECHINUS MAMILLATUS.
(Natural size.)

After looking at Mrs. Evans's beautiful abalones, and her books of sea-weed—each leaf of the books being just the right shape to fit the covers of small abalones—and after seeing her collection of abalone jewelry, Alice decided to go exploring.

“I'm going to hunt for something alive, myself,” said she, and she started for the beach.



GROOVED TOP-SHELL FOUND
NEAR MONTEREY.

Uncle Frank met her on the way.

“See what I've found,” said he, and he held up a dish of seawater in which was a spiny round thing, alive.

“What is it?” asked Alice.

“It's a little live sea-urchin,” said Uncle Frank, and Alice looked in. It was of a purplish color.

“What makes folks call them ‘urchins’?” asked Alice, as she poked her finger at the captive.

“That is an old word that came from the French *Oursin*,” said her uncle; “and it means a ‘hedgehog,’ on account of the spines, you see.”

“Oh!” said Alice, “I thought urchin meant a little boy; and I didn’t see why folks should call that thing that.”

“Now that you have seen him, I think we will take him back to the rocks,” said Uncle Frank; and they walked toward the beach.

“Did that urchin hurt you any when you caught it?” asked Alice.

“No,” said her uncle; “but I read, the other day, about a man who found a kind of sea-urchin that hurts. He was visiting the Philippine Islands, and he dredged up a lot of these sea-urchins from the shallow water near the coast. These urchins have hollow, pointed spines, and the man, Mr. Moseley, said that he thought that there must be a kind of poison in the ends of the spines; for the minute one of them runs into a person’s skin, the person feels a sharp, stinging pain, like a wasp’s sting, only not quite so sharp, and the pain lasts about five minutes.”

“Uncle,” said Alice, “what do sea-urchins live on?”

“Sea-weeds and dead fish,” said Uncle Frank. “They are scavengers.”

They had reached the sea-beach by this time, and, bending down, Uncle Frank put the little sea-urchin back into the salt-water again.

Alice was looking down into a pool left by the tide.

“What’s that thing walking along?” she asked.

“Where?” said her uncle.

“There,” said Alice, pointing down.

“Oh! that’s a hermit-crab,” said Uncle Frank.

“A crab?” said Alice. “Why, he looks like a big snail with queer legs.”

“That’s because he has stolen some mollusk’s shell and eaten up the mollusk and put himself inside of his house.”

“Is he as wicked as that?” asked Alice.

“Yes, indeed,” said her uncle. “He is a regular murderer and thief. That same man I told you about, Mr. Moseley, when at the Admiralty Islands, was one day out collecting plants, when he saw what he thought was a fine, large land-snail on top of a bush about four feet high. Mr. Moseley tried to take the snail in his hand, but he received quite a severe bite, instead; for

a big hermit-crab was inside of the shell, which was not a land, but a water one."

"Seems to me Mr. Moseley had a pretty hard time with the stinging urchins and biting crabs," said Alice. "I guess this crab doesn't like to have you talk so. He's going to hide himself in that hole."

"Most wicked people don't like to have their evil deeds talked about," said her uncle.

"What are those Chinamen doing?" asked Alice.

The two walked over to the Chinamen lying on the beach, and found them busily engaged in picking up handfuls of sand and looking at it.

"What are you trying to find?" asked Alice.

One of the Chinamen looked up, and Alice saw that he was Ah Wo.

"Me find licee-shell," he said; and he drew a little paper out of his blouse and handed it to Alice. It contained perhaps fifty little "rice-shells," as they are called, looking exactly like pure white grains of rice.



"EAR-SHELL."

(*Very much reduced.*)

The scientific name of this shell is *Marginella Fewettii*. The Chinamen were laboriously sifting the sand and bits of broken shells through their fingers in search of this addition to their stock of trade.

“How much are the rice-shells?” asked Uncle Frank.

“Fi’ cents, twenty,” said Ah Wo.

“Don’t little Yat help find them?” asked Alice.

“Some day,” said Ah Wo; “some day when he big.”

“That’s cheap enough, I’m sure,” said Uncle Frank, as they walked on. “I shouldn’t want to lie there in the hot sun and sift sand through my fingers for hours till I had found twenty rice-shells, and then sell them for only ‘fi’ cents.’”

CHAPTER VI.

ALICE'S DOINGS.

ONE day Alice went down to the beach for a ramble by herself. Her father and mother had gone with Uncle Frank to a Chautauqua lecture, Robbie was taking his afternoon nap, and there seemed to be no one she knew to play with; so Alice decided to go down and explore the beach. On the sand, barefoot children were wading into the surf and rushing out again with little shrieks at the waves. Farther out empty row-boats and sloops tossed at their moorings. The gray and brown cliffs were adorned here and there with flashing clumps of red "painted-cups," mixed with the yellow of stout-growing plants that overtopped the lavender of great bunches of the large-flowering cliff-daisies. Wild oats waved upon the precipices. Walking under the pines and live-oaks, she could see streamers of gray moss that hung from the boughs.

After strolling quite a while on the bluffs, Alice found herself near the Chinese fishing-village, and there, sitting before the huts, were three artists; one girl and two men. They were drawing the huts and the high frames for drying fish, and the Chinamen were greatly interested in the performance. They crowded around the artists, and looked over their shoulders, and jabbered queer talk about the pictures, though whether the talk was complimentary or not, Alice could not decide.



ONE OF THE ARTISTS.

One little Chinese girl in the group had a bowl out of which she ate with chopsticks, and at a distance were Chinamen winnowing small dried fish. One Chinaman would lift up the fish and let them drop by the handful, and the wind would blow out the straw or grass that had become mixed with the fish while they were drying. Then the Chinaman took the winnowed fish and spread them on matting to dry more. There were crates of small fish that were standing on their heads, and drying-tables full of other kinds of fish.

All over the rocks near the artists were small fish, put there to dry.

Presently Alice saw three Chinese women push off a boat and row away in it. As nearly as Alice could find out, they were going for kelp.

The sun was warm and Alice was tired when she left the Chinese hamlet, so she walked slowly back, stopping at this beach and that one to look for shells. She found numbers of pretty small ones, and two rice-shells. At last she came to a beach where there was an empty row-boat drawn high up on the sands. Some one had taken the oars and left the boat.

“I guess it belongs to some fisherman,” said Alice, as she walked over the white sand to the boat. “Yes; and there’s a little fish now. It’s a little shiner,” and, climbing in, Alice picked up the fish, and, finding a tin cup under a seat, she dipped up some sea-water and put the fish in it, hoping he would come to life. But the little fish was too far gone for that, and though Alice found several more “shiners” in the boat, yet she could not bring any of them to life.

And then, someway, Alice must have gone to

sleep in the hot sunshine, for the next thing she knew, the sun was gone, little stars were just beginning to peep out, and she was in a row-boat, far out in the tossing waves, with the land just a mere strip fading faintly away in the darkness.

“Why,” said Alice, starting up and looking around, “how did I come here?”

The waves only splashed in answer, and gradually the events of the afternoon came back to her.

“I must have gone to sleep,” said she to herself, “and I don’t believe that I even looked to see whether the boat was fastened or not. It was so far up on the beach that I never thought the waves could reach it. But how am I going to get home without any oars?”

She looked around, trying to see some boat, but there was none in sight. The fog was rolling in, hiding all the land and wetting Alice’s hair. She drew her little cape closer around her, and sat shivering.

“I suppose I could cry,” said she to herself, as she sat tossing there, thinking. “I guess it would be pretty easy, but I think I’ll scream first. Maybe some one will hear me.”

And scream she did, calling for help with all her might. Once she thought she heard an answer, but it was only a sea-bird. And as an hour passed and it grew darker and darker, and the fog rolled in more heavily, and the lights ashore were hidden and the stars blanketed from sight, Alice did, indeed, find it easier and easier to think of crying.

“I’m not going to, not a bit,” said she to herself, bravely, as she crouched down in the bottom of the boat and held to the seat, a very drenched, forlorn child indeed. “I s’pose I’ll catch an awful cold, but my papa’ll cure me. But I’m getting dizzy;” and then Alice looked pretty sober. Suppose she should become so dizzy with that perpetual tossing that she should not be able to hold herself into the boat and should be thrown out? And, in spite of herself, she cried a little at that.

Maybe it was the sound of the water that made her think of it, but someway there came drifting through her mind the remnant of an old chant that she had heard somewhere:

“The floods have lifted up their voice. The Lord

on high is mightier than the noise of many waters, than the mighty waves of the sea," and with that thought she stopped crying.

"Then I won't be afraid any more," said she to herself, and the fog and darkness and surge of the water did not seem so terrible any more when she thought of the One who could see even herself as she floated alone.

A little while after this there came a queer sound over the water. Alice wondered if she could hear distinctly. It sounded like something that she had heard in the Chinese fishing-village.

"I'm not there now," said she to herself, "and I needn't imagine so."

But still once in a while Alice thought she heard that sound. Pretty soon she was sure of it. It was that queerest of music—Chinese singing. It came nearer.

"I'm going to scream and see if that's really anybody, or whether I only imagine it," said Alice, and she called as loudly as possible.

There was no answer, but the queer singing went on, and Alice heard oars.

“Here! Come this way,” cried she.

The singing had just come to an end, and probably the rowers heard, for there came through the fog a voice that said, “Hó-lah!”

“Help me!” cried Alice.

The sound of oars came nearer till the boat was almost alongside of Alice's, and she could just make out that it contained three Chinese women.

“I guess it's the three I saw pushing off for kelp this afternoon,” said she.

“I no row — no oars — you take me home,” explained Alice.

But the Chinese women did not seem to understand. They could not talk much English, for it is usually the Chinese men who have to do the bargaining with Americans.

“I go with you. Take me home,” said Alice, pointing toward where she thought the shore should be, and then, someway, she went to crying.

The Chinese women understood that, if they did not the words, and one of them climbed over into Alice's boat. She peered closely into her face and patted the

little girl on the shoulder. Then she said something in Chinese to the other women.

They tied Alice's boat to their own, and then rowed on, towing her. The two women in the first boat began their queer song again, and the woman in Alice's boat sang, too.

But the tune zigzagged up and down, and see-sawed so, and was so sung through the women's noses that if Alice had not been in such distress she would have laughed. As it was, she saved the laugh till afterwards.

The women towed Alice back to the Chinese village, and there the news of her arrival spread through the huts. Dirty-faced Chinese children peeped out to see her, little dogs barked, and Chinamen old and young stood around, their queues coiled up on their heads or hanging at their heels, and queer pipes in their mouths.

"Thank you very much," said Alice to the women. "I know the way now. Good-by!" and the tired little girl turned her steps homeward.

But the woman who had been in the boat with

Alice had gone to a house from which a Chinaman now stepped out.

“Me go home with you. Take you to papa and mamma. Me know where you live,” he said, and lo, it was Ah Wo.

So, as the fog was very thick, and Alice was not really sure that she could find her house, Ah Wo guided her across the fields and by the bluffs to the four-roomed house where there had been such commotion for the last few hours.

Ah Wo rapped at the door and received a very warm welcome.

“They brought me home in a boat,” sobbed the returned voyager, overcome with her adventures, “and I” —

“Lil' gal on water. Heap tired. Allee lite to-morrow,” broke in Ah Wo. “Sing Loo find her. Sing Loo my wife.”

After which lucid explanation, and after being duly rewarded by Alice's father, the Chinaman departed through the fog.

But the four-roomed cottage was a place where

Ah Wo's baskets often stopped after that. And little Yat lost his bashfulness, and became such a successful trader at that house that his lamentations were loud and his anguish grievous to behold on the day when Alice and her folks left for their homeward journey.

CHAPTER VII.

A T A L K .

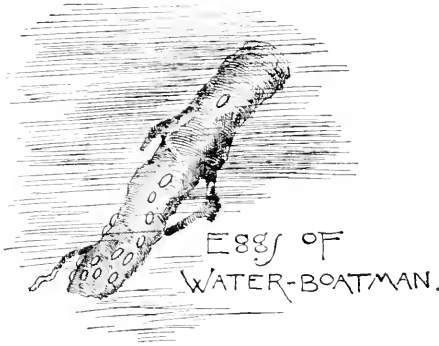
THE members of the Look-About Club found their note-books to be very useful. Every new fact they observed was jotted down, and before the year ended those books contained answers to all of the questions on the list that Mr. Perry had given Al at the beginning of the season. The question about the Triton had been satisfactorily solved by Blanche,



TRITON.

who brought home one of those creatures from a dredging expedition. The children used cloth in their dredgers this year, instead of mosquito-bar, and they found it a great improvement, since numerous larvæ of water creatures that had formerly slipped through the meshes of the dredgers now came up for the inspection of the curious.

The answer to the question about the kind of larvæ that come from the eggs of the water-boatman was a great puzzle to all the children. Long and anxiously



did they look in their dredgers and persistently did they keep creatures that turned out to be May-fly larvæ, or dragon-fly larvæ, instead of becoming water-boatmen.

There was a jar of these full-grown bugs in the yard, however, and one spring day Al found some of their white eggs laid in rows on a stick in that bottle.

“Now we shall find out what the larvæ are,” said Al, as he pried out the stick and put it in a little bottle.

But great was his amazement when those eggs were fifteen days old, to see issue from one a little bug that swam on its back and looked exactly like the full-grown water-boatmen, only it was so very small.

“Papa’s fooled us,” cried Al, as Blanche and Kittie

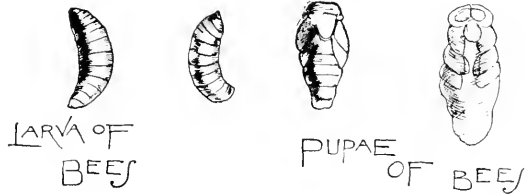
made their appearance. "There are no water-boatmen larvæ at all. The babies look just like their mammas."

"Isn't he cunning! Let's carry him to papa," said Kittie, and the three ran into the house.

"We've found you out," cried they, as they discovered Mr. Perry, sitting by Al's blackboard. "Our boatman's egg has hatched, and it's nothing but a little black-and-white bug."

"May I add something to your blackboard?" asked Mr. Perry, as he turned to the corner where the seven divisions of the insects were still illustrated by Al's pictures.

"Why, of course," said Al; and, taking up the chalk, his father wrote opposite Coleoptera, Lepidoptera, Hymenoptera and Diptera, the words,



"Transformation complete;" while opposite Orthoptera and Hemiptera he wrote, "Transformation partial;" and opposite Neuroptera, "Transformation either complete or partial."

“What do you mean by that, papa?” asked Kittie.

“Well,” said her father, “if an insect goes through the three stages of larva, pupa and perfect insect, then that insect is said to have a complete transformation, because, you see, it has completely changed its shape; just as a bee is for five or six days a little white larva, then goes to sleep, and finally comes out as a queen, a worker, or a drone bee. But all insects do not have to go through such changes. The squash bugs do not, you know. The little bugs look nearly like the older ones in shape. So do your little scorpion bugs, and your Ploteres, and the grasshoppers and crickets, and these little water-boatmen.”

“And will this baby boatman grow till he becomes a big one?” asked Blanche. “I thought bugs didn’t grow.”



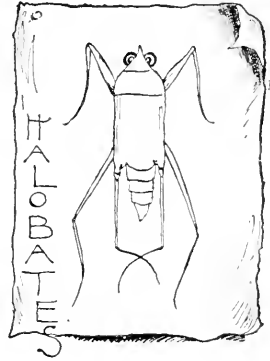
PLOTERES.

“Beetles do not,” said her father. “After an insect passes through a perfect transformation, it is done, but your water-boatman is not finished.”

“Oh! I know what you mean by those little Ploteres,” cried Al. “Why, I’ve seen swarms of them

among those weeds and on the water at the brook, only I never thought what they were. They grow to be those big *Ploteres* — those ‘water-skaters,’ of course.”

“Yes; and you know we have found little scorpion bugs that looked just like the big ones,” said Kittie; “and they caught mosquito wrigglers and killed them, just the way that the big scorpion bugs catch other bugs. Why, it’s easier to study insects that look alike, little



and big, than it is to study those that look so different when they’re larvæ from what they do when they’re done, isn’t it?”

“I found a picture of some of the relatives of our *Ploteres* the other day,” said Al, holding out his notebook to show the insect. “It is a bug called *Halobates*, and it lives in the open sea hundreds of miles from land. The book I read about the *Halobates* in said that they are found in the Atlantic, Indian and Pacific oceans, and in the China Sea, and they never come to land, but run about on top of the ocean near

the equator, and people can look out of the ship and see ever so many of these bugs sometimes, of all sizes."

"Did the book you read that in tell you what the Halobates does with its eggs?" asked Mr. Perry.

"No, sir," said Al. "What does it do with them?"

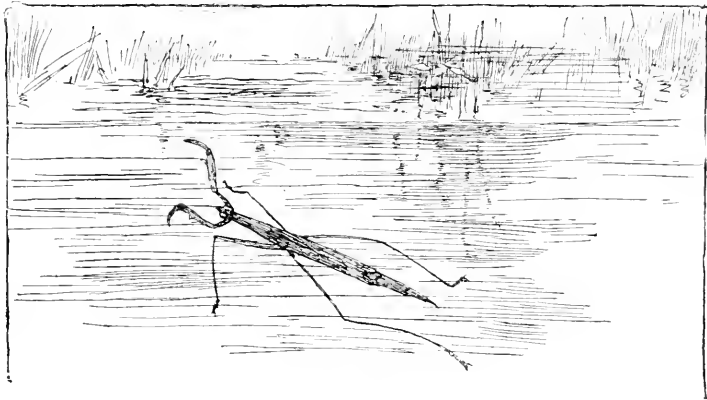
"It carries them around attached to its body," said Mr. Perry.

"Papa," said Kittie despairingly, "after all, I don't understand. What is the difference between a beetle and a bug?"

"Well," said her father, "you can often tell the two apart by the shape of the mouth. In the bugs there is a beak-like sucking mouth, and the creature, whether water-boatman, or ranatra, or scorpion bug, will run this beak into its prey and suck out the juice. True beetles, you know, have mandibles with which they chew their food. Then beetles have horny outside wings, or elytra, as they are called, and thin underwings suitable for flying, while the bugs, or Hemiptera, often have fore-wings that are somewhat leathery; and, in some, the wings are thicker next the body than on the tips. Bugs often have their heads sunken into

their bodies, and the larvæ and pupæ look almost like their parents, as we have said, only the children want the wings of the adults. The wings grow gradually."

"Did you see Alice's last letter, papa?" asked Kittie. She had just then caught a glimpse of its envelope sticking out of her work-basket.



RANATRA ASIATICA.

(Red-brown.)

"No, I believe I did not," said her father. "What did she say?"

And so the letter was brought and read aloud. It contained an account of Alice's attempts at raising *Hydrophilidæ* larvæ, and afterward she said:

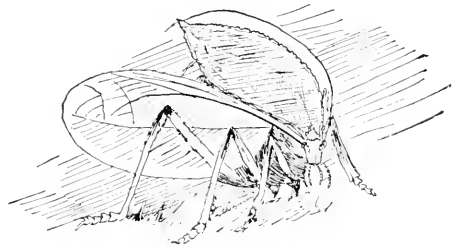
"Uncle Frank says he wishes he had belonged to

a Look-About Club when he was a little boy. I asked him why, and he said because then he would know some things that he wants to, now. He said that when he went to school the teacher used to have a class in zoölogy, and a good many of the boys used to bring the teacher bugs and caterpillars and butterflies, and he told them about them; but Uncle Frank didn't listen, because he didn't care about such things. But now he has a big fruit-ranch, and he says it takes him all his time to learn which bugs are his friends and which are his enemies; for both kinds come to look at his trees. And for a while he didn't know that the lady-bugs were his friends, and he went and killed ever so many of them. He says he's real sorry now, for maybe those lady-bugs were worth as much as a dollar apiece to him. And so I told him about the mantis that I had. He said he wouldn't kill anything like that that came around his ranch, but he thought that mantes were not found very often. And he's going to hire me to find out things about the bugs that come to see his fruit-orchard. He says he wants to know whether he shall invite them to stay or not. And

papa's bought me a big book. It's Packard's Guide to the Study of Insects. It has ever so many pictures in it, but the reading is real hard for me to understand yet. Papa says, though, that he will help me to understand it; and then I'll teach Uncle Frank, and he will pay me for 'bug-lessons,' as he calls them."

"So Alice is going to get rich out of the Look-About Club, is she?"

said Mr. Perry, after he read this. "Well, there is a useful side to such a club, and I pity any farmer who doesn't know all the bugs that



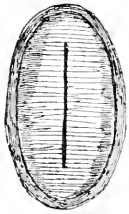
GREAT SHIELDED GRASSHOPPER.

come to see him. Didn't you have another picture in that note-book of yours, Al? Seems to me I caught sight of one when you showed me Halobates just now."

"Yes, sir," said Al, pulling out his note-book once more.

"It's a picture of the kind of ranatra that lives in Asia. I found the picture, the other day, and I thought

that I would copy it so as to try and remember the difference between the kind of ranatra we find here and the kind that lives in Asia. The book I took that from said that the Asiatic ranatra is a sort of red-brown color."



A SPIRACLE.
(Enlarged.)

"And here is another picture," said Mr. Perry, turning over a few pages. "What's this? "

"Oh! that's a sketch of the 'Great Shielded Grasshopper,'" said Al. "I was reading Wallace's Malay Archipelago the other day—I got it out of the free library—and I found that picture in it. Just think of seeing a grasshopper flying that measures more than nine inches across the wings! It looks like some leaves, when it is sitting still, for its wings are green and veined. It lives in New Guinea."

"And what is this—a shell?" asked Kittie, looking over her father's shoulder.

"O, no!" said Al; "that's a spiracle."

"And what is a spiracle?" asked Kittie. "You've got ahead of me in studying."

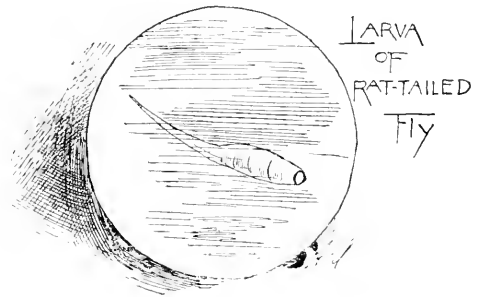
"A spiracle is a breathing-hole, such as a caterpillar

has on its sides," said Al. "Haven't you seen them on smooth caterpillars? They're those rows of spots on the sides, marked with black, or red, or yellow, or brown."

"And are those breathing-holes?" asked Kittie. "Why, I never should have suspected it."

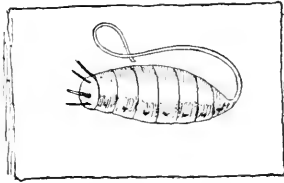
"Yes," said her father. "Those spiracles connect with the tracheæ, or air-tubes, and are guarded usually by two little valves. One valve protects the outer opening, and then there is a second valve a little further inside."

"But, papa," said Kittie, "those insects that live in the water breathe differently; for don't you remember our little Agriion dragon-fly larva had leaf-like things, and you said they were to help them breathe."



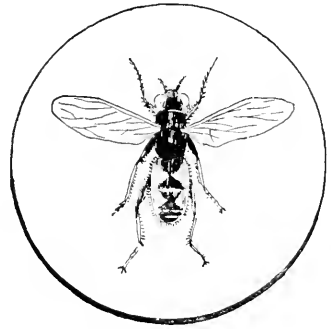
"Yes," said her father; "those were false gills, or branchiæ, and they gathered the air from the water and took it to the tracheæ. Then the larvæ of the

‘rat-tailed’ flies have another queer way of breathing. Did you ever find a picture of their larvæ?” and, rising, Mr. Perry found a book and brought it to his chair.



PUPA OF ERISTALIS.
“RAT-TAILED FLY.”

“There, he said, pointing to a picture “that is a breathing-tube of the larva. It is a sort of telescoping tube, being really two tubes, one of which shuts into the other, so that the larva can make its tube longer or shorter according to the depth of the water. Once a celebrated naturalist, Réaumur, tried some experiments with such larvæ. He caught some and put them into a basin of water. There they all stood parallel to one another, keeping themselves in a perpendicular position, their breathing-tubes running up just to the surface of the water.



A SPECIES OF HELOPHILUS.

Réaumur then began to deepen the water. The tails of the maggots lengthened, till those tubes, which at first had been only two inches long, had become five.”

“Do they live in the water till they become flies?” asked Blanche.

“No,” said her father; “they come out of the water and bury themselves in the ground, and their bodies become shorter and harder. Then they are pupæ; and they have four little horns apiece, to breathe through. When the perfect flies come out, they begin to fly around flowers and scoop up the pollen with their maxillæ. You can see many such flies around flowers in the spring-time.”

CHAPTER VIII.

THE CLUB'S STORY NIGHT.

IT was "Story Night" with the Look-About Club. Once in every two months the members had a meeting, at which each person was expected to recite some story about some animal that he or she had read of in books or heard of from some reliable person.

Grandmamma was the first to recite, as usual, she being the "head scholar," as Al said. She had a story that she remembered having read long before in English history.

"It is a story about a cat," said Grandmamma, as she drew off her spectacles and shut her eyes to rest them.

"Then listen, Mrs. White-head, listen," said Blanche, shaking the big cat that lay purring sleepily on the mat before the fire. "Hear what a smart thing a cat did once."

But Mrs. White-head evidently cared more for her sleep than she did for all the honorable deeds that the whole race of cats might have done, and, after blinking her eyes solemnly at Blanche, she closed them again and the purring recommenced, while Grandmamma went on with her story.

“Many years ago,” said she, “there lived in England a man who might have said, as did the prophet, so many hundreds of years before: ‘I called upon thy name, O Lord, out of the low dungeon.

“‘Thou drewest near in the day that I called upon thee; thou saidst, Fear not.

“No doubt these words of the prophet Jeremiah and his experiences in the ‘dungeon of Malchiah, that was in the court of the prison,’ have been remembered by many of God’s people, when they, like the prophet, have suffered imprisonment for conscience’s sake.

“This man in England was called Sir Henry Wyatt, and he lived in those troubled days when the English people for almost six years had been divided into the two parties of the Red and the White Roses, and when much of hatred and fighting and bloodshed

was attached to the parties that wore these different flowers.

“ Sir Henry himself was a Red Rose, and so he had to bid farewell to the meadows of his County of Kent, between the River Thames and the Strait of Dover, in the southeast part of England, and allow himself to be taken by his enemies to prison. And in this County of Kent, the very county that had been in early days the first in England to receive the gospel of good-will to men — the county that men call the ‘garden of England,’ for the beauty of its green meadows — there were cruel things being done, as poor Sir Henry found out. He was taken to the ‘cold and narrow tower,’ where, the historian tells us, he was imprisoned.

“ In his cell he had not even a bed to lie down on, and, to add to his discomfort, as the clothes left him were not thick enough to protect him, he suffered much in that chilly place from the cold. But the worst thing of all was that, like the other prisoners, he was almost starved. He had no ‘meat for his mouth,’ as one writer says. And he had no ‘Ebed-Melech, the Ethiopian’ to go before the king, as had Jeremiah,

and say, 'He is like to die for hunger in the place where he is.'

"But if there was no human being to help him, God could send a message by an animal as well. One day when Sir Henry was sad enough in his prison, thinking, perhaps, of his own unhappy fate, and that of his country of England, and wondering if peace would ever come again and men would know that a throne was not worth the shedding of the blood of so many men, something came softly stepping into his cell. Sir Henry had a visitor.



THE DAILY VISITOR.

"It was a cat, and a friendly one, too; for when Sir Henry, pleased at the sight of any living thing, petted her, she allowed him to take her up in his arms, and her soft fur felt very warm and comfortable to the chilled man. But, by and by, when Pussy thought she had stayed long enough, she jumped down, slipped out at the door, and went away, and Sir Henry was left alone once more. No doubt he felt lonelier than ever; but he had treated Pussy so kindly that she felt

like making him another visit, and so she did, until it came to be a regular thing for the cat to make a daily visit to his cell.

“But her company, pleasant as it was, did not prevent Sir Henry from suffering greatly with cold and hunger. Whether Pussy noticed how thin her friend was becoming, or not, she one day brought a present with her for Sir Henry. ‘He had starved there,’ says the old recorder, ‘had not God, who sent a crow to feed his prophet, sent this, His and his country’s martyr, a cat both to feed and warm him.’ Pussy had done the latter, and now she brought something to eat. It was a pigeon that she had caught.

“Sir Henry was very glad when he saw Pussy’s present. No doubt he felt as Elijah did when he received his first meal from the ravens. Probably pussy thought the pigeon was all ready for eating; but Sir Henry could not, like the cat, eat the bird unless it was cooked. He did not know what the jailer would say, so he complained to him of the cold and of the scanty fare.

“‘I dare not better it,’ said the man.

“‘But,’ said Sir Henry, ‘if I can provide any will you promise to dress it for me?’

“‘I may well enough,’ said the jailer, who knew how very unlikely it was that a man in Sir Henry’s condition, shut up by his enemies, should have any way of obtaining food from outside of the prison. ‘You are safe for that matter,’ added he.



A FRIEND IN NEED.

“But Sir Henry wanted a definite promise from the man, and after a little urging, the jailer consented to bind himself to certainly cook anything that Sir Henry might be able to get. No doubt the man wondered much over the first pigeon, but he might have had a chance to see the cat a number of times afterwards bringing other pigeons to Sir Henry. He was very grateful indeed, and probably praised Pussy so much that she understood that she brought presents that her kind friend greatly valued.

“At any rate, she did not eat the birds herself, and the jailer, who must have been inwardly kind-hearted, although afraid to do anything openly for the prisoner,

because it might be heard of by the White Roses, yet kept his promise, and from time to time prepared such pigeons as the cat brought.

“And Sir Henry was saved from starvation. At last the day came when the prison doors were opened, and he came out, a free man once more. But, in after years, when prosperity came to him, when he lived in his castle at Allington, Kent, and saw the Red Roses triumph at last, and Henry the Seventh come to the throne to be the kingly friend of the son, Sir Thomas Wyatt; when riches and honor were his, then Sir Henry did not forget the humble, four-footed friend



MRS. WHITE-
HEAD.

that God had sent to visit him in the days when he was a poor starving prisoner. For her sake Sir Henry was kind to all cats, and they always found in him a benefactor. ‘Perhaps you shall not find his picture anywhere,’ says the old chronicle, ‘but with a cat beside him.’”

“Do you hear that, Mrs. White-head?” asked Al, twitching that person’s ear gently. “Behold what wonderful deeds your ancestors did!”

But Mrs. White-head was suddenly reminded that there was probably a saucer of milk waiting for her in the kitchen, and she rose and departed in haste, regardless of the respect due the club.



“REGARDLESS OF RESPECT.”

“I think Sir Henry ought to have been thankful to the pigeons, too,” said Kittie. “It was a good deal more of a sacrifice for them to be eaten, than it was for that cat to go and catch them. Sir Henry ought to have had a pigeon with him in his pictures, as well as a cat.”

“That reminds me of a queer Jewish legend about pigeons, that I once heard,” said Aunt Nan. “It was thought that the waters of the flood in the time of Noah were hot, and this legend said that the dove that Noah sent out of the ark scalded her feet so that feathers never grew on her legs any more, and so the Jews said that all those doves nowadays that have red and featherless legs are the descendants of Noah’s dove.”

“Where is Mrs. Jameson’s *Legends of the Monastic Orders*?” said Mr. Perry, rising and going over to the

bookcase. "I saw a legend in that about doves, the other day," and, finding the book, he turned rapidly over the leaves till he came to the chapter on St. Nicholas of Tolentino. Then he read aloud:

"It is related of this St. Nicholas that he never tasted animal food. In his last illness, when weak and wasted from inanition, his brethren brought him a dish of doves to restore his strength. The saint reproved them, and, painfully raising himself on his couch, stretched his hand over the doves, whereupon they rose from the dish and flew away."

"After they had been cooked?" said Kittie. "What nonsense!"

"There's another legend farther over, about St. Francis of Assisi and the doves," said Aunt Nan, and Mr. Perry, having found the place, read this legend, also:

"Of all living creatures he seems to have loved especially birds of every kind, as being the most unearthly in their nature; and among birds he loved best the dove. One day he met on his road a young man on his way to Siena to sell some doves which he had

caught in a snare; and Francis said to him, 'O, good young man! these are the birds to whom the Scripture compares those who are pure and faithful before God; do not kill them, I beseech thee, but give them rather to me;' and, when they were given to him, he put them in his bosom and carried them to his convent at Ravacciano, where he made for them nests, and fed them every day, until they became so tame as to eat from his hand."

"Now read us his sermon to the birds," said Mrs. Perry, "and then I think we shall have had enough of St. Francis and his legends."

So Mr. Perry read this other story of Sir Francis:

"Drawing nigh to Bevagna, he came to a certain place where birds of different kinds were gathered together; whom seeing, the man of God ran hastily to the spot, and, saluting them as if they had been his fellows in reason (while they all turned and bent their heads in attentive expectation), he admonished them, saying, 'Brother birds, greatly are ye bound to praise the Creator, who clotheth you with feathers, and giveth you wings to fly with, and a purer air to breathe, and

who careth for you, who have so little care for yourselves.' Whilst he thus spake, the little birds, marvelously commoved, began to spread their wings, stretch forth their necks, and open their beaks, attentively gazing upon him, and he, glowing in the spirit, passed through the midst of them, and even touched them with his robe; yet not one stirred from his place until the man of God gave them leave; when, with his blessing, they all flew away. These things saw his companions, who waited for him on the road; to whom returning, the simple and pure-minded man began greatly to blame himself for having never hitherto preached to the birds."

"Well, I think we've had enough nonsense," said Mrs. Perry, "let us hear Aunt Nan's story."

"My story resembles Grandmamma's somewhat," said Aunt Nan, "in having an animal help a prisoner, only my animal is a beetle instead of a cat. One day, nearly a hundred years ago, in the old French seaport town of Bordeaux, there was a little stir in a certain dark corner, and a beetle walked out to take its first look at the world. There was nothing to indicate that

this was to be a specially remarkable beetle, and yet it had quite a work to do. Not the ordinary work of such insects, however important that may be, but the principal life-work of this beetle was to save a man from death. Perhaps when King David in his psalm called upon all 'creeping things' to 'praise the Lord from the earth,' he may not have thought especially of beetles, yet this little insect was to be the cause of much thanksgiving.

"The house under which this beetle had its home was a prison, known as the Grande Seminaire, and, in one of the cells of the prison, was the man that was to be rescued by the beetle. His name was Pierre La-treille. Little had he dreamed as the cart that bore him and his companions to prison creaked along the road to Bordeaux, that he should ever live to be free again in his native land. For those were evil days in France. Even the good-natured, honest king himself, poor Louis the Sixteenth, was powerless to shield his wife and children from the fury of the French people. The royal family were already in danger, and the iniquities of the two previous Louises were being visited

on their comparatively innocent descendants. All of the nobility and clergy who refused to take their oath on the new constitution were thrown into prison, and it was for this reason that Pierre Latreille and his companions had been imprisoned at Bordeaux.

“It is small wonder that Pierre was sad as he sat in his prison-cell with no one to keep him company but an old, sick bishop. No doubt Latreille often thought, during the dreary prison days, of his past life, his young boyhood in his native town of Brive, in the rich plain by the River Corrèze. His family had been poor, though distinguished, and Pierre himself owed his education to the kindness of friends.

“One of these, a merchant, lent him some books on natural history, and it was from reading these that Pierre first came to love the study of insects. When he was sixteen he was sent to Paris, and there studied theology, but upon his return to his native town, he began the study of insects again with great zeal. He had even published some of his discoveries about insects, and now, to all appearance, this study must come to an end.

“Out in the harbor of Bordeaux, ships were making ready to take the prisoners away from France. They were condemned to exile in South America. Still the prisons were emptied slowly, and although it was June when Latreille was first taken to Bordeaux, yet the days and months crept by, and still he lived within the Grande Seminaire. The little beetle lived there, too, although the prisoners did not know it.

“One day a surgeon came to see the old bishop in Latreille's cell. The prison authorities had allowed the surgeon to come daily and dress the wounds of this aged man. This particular day, while the surgeon was in the cell, the little beetle came out of a crack in the boards and crawled into the room. Latreille, looking around, spied the beetle, caught it, and began to examine it. He seemed so happy over his discovery that the surgeon looked up and said, ‘Is it a rare insect?’

“‘Yes,’ said Latreille, who knew, from his previous studies, that it must be so.

“‘In that case you should give it to me,’ said the surgeon; and he went on to explain to Latreille that he had a friend who had a fine collection of insects,

and who would probably be much pleased to receive a rare one.

“So Latreille gave up his beetle to the surgeon, and told him to carry it to his friend, and to be sure and ask him the name of it.

“But when, the next day, the surgeon made his visit to the cell, he brought the news that his friend had looked at the beetle, and had given it as his opinion that this was a new kind of insect that had never been described. Latreille rejoiced at this answer, not so much because of the discovery of a new beetle, as because the word brought back showed that the surgeon's friend was indeed a learned man.

“‘In that case,’ thought Latreille to himself, ‘he has probably read my book, and will be friendly toward me.’

“So, as Latreille had neither pen nor paper to write a note, he begged the surgeon to go once more to his friend, whose name was Bory de Saint Vincent, and tell him who the prisoner who had sent the beetle was, and say that this prisoner was about to be sent to Guiana to die there as a convict.

“The surgeon faithfully delivered the message, and as soon as his friend heard it, he immediately set about trying to have Latreille released, for he recognized his name as one of the scientific names of France.

“Meantime, the prison-ship was making ready in the harbor. The prisoners went on board, but Latreille was not among them, for vigorous efforts were being made in his behalf. The ship at last set sail, but it was never to reach the South American coast. The vessel foundered before it was out of the Bay of Biscay, and every prisoner on board was drowned. No wonder that Latreille, afterwards, in one of his great entomological works, when describing the kind of beetle that he found in his cell, and speaking of it under its scientific name of *Necrobia ruficollis*, calls it ‘an insect very dear to me, for in those disastrous times, when France groaned tremulously under the weight of endless calamities, this little animal was the miraculous cause of my liberty and safety.’

“After this providential escape, Latreille’s friends were so far successful that he was permitted to come

out of prison as a convalescent, although it was stipulated that he was to be delivered up whenever the authorities wanted him. After a time, however, his friends managed to have his name taken off from the list of those who were to be exiled; and so, though even King Louis himself was put to death by the furious French people, yet this man was saved to become the 'Prince of Entomology,' as he was surnamed. But although he was one of the greatest scientific men of France, and published numerous works on his favorite study, and became Professor of Zoölogy in the Museum of Natural History in Paris, yet he never forgot his miraculous deliverance; and after his death an obelisk raised to his memory at Père-la-Chaise, had engraved on it a large figure of the little beetle that had been guided by a Divine hand to visit his particular prison cell and become the means of his deliverance from death."

Fifty Flower Friends

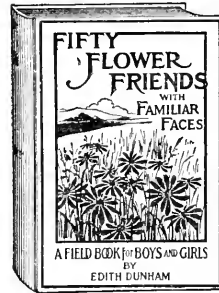
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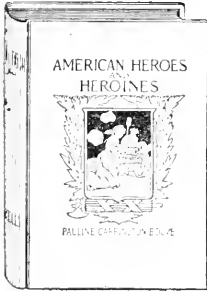
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